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ABSTRACT

Despite the long existence of vocational education in the school system, very little is known about the characteristics of the participants. Thus, this report presents the findings of a study of the characteristics of vocational education teachers and students. Information on the professional qualifications and teaching experiences of teachers is examined in relation to other characteristics and to the types of vocational education programs being taught. Information on students includes individual and family characteristics, program and labor force activity, and plans for the future. Among the findings of this report are: (1) The typical vocational education teacher is a male in his early 40's, (2) Median earnings of vocational education teachers are approximately $8,700 for a contract year, and (3) There are slightly more female vocational students than male students. However, males outnumber females at the postsecondary level. (Author/JS)

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VOCATIONAL EDUCATION: CHARACTERISTICS OF TEACHERS AND STUDENTS 1969

by

Evelyn R. Kay

Adult and Vocational Education Surveys Branch

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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HIGHLIGHTS

The typical vocational education teacher is a male in his early forties.

Over three-fifths of vocational education teachers have fewer than 10 years of teaching experience—in vocational subjects or otherwise.

More than half of all vocational teachers work in schools with more than 1,000 students, compared with one out of five teachers in schools having fewer than 500 students.

At least three out of four vocational education teachers have a bachelor's degree or better, and at least one-third have a master's degree or better.

Median earnings of vocational education teachers are approximately $8,700 for a contract year.

The size of the average secondary vocational education class is 21 students. There is little difference by level of instruction.

There are slightly more female students than male students. However, males outnumber females at the postsecondary level.

About 14 percent of all enrollees are Negro, and an additional 7 percent are members of other minority groups. At the postsecondary level, fewer than 6 percent are Negro.

About half of all secondary and postsecondary students work full or part time; and over half of these have jobs related to their programs of study.

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FOREWORD

Vocational education has become one of the major channels through which young people prepare themselves for the world of work. In 1969, federally reimbursable vocational education programs alone involved nearly 8 million students and 167,000 teachers. Despite these relatively large numbers and the long existence of vocational education in the school system, very little is known about the characteristics of the participants—a fact pointed out by the 1968 report of the National Advisory Council on Vocational Education.

This report presents the findings of a study of the characteristics of vocational education teachers and students conducted in the spring of 1969. Information on the professional qualifications and teaching experience of teachers is examined in relation to other characteristics and to the types of vocational education programs being taught. Information on students includes individual and family characteristics, program and labor force activity, and plans for the future.

We deeply appreciate the cooperation of the Division of Vocational and Technical Education of the U.S. Office of Education, the State Directors of Vocational Education, other State personnel who assisted in all stages of the study, and the many teachers and students who took the time to complete the forms which provided the information for this report.

The survey was developed under the direction of Morris B. Ullman during his service as Chief of the Adult and Vocational Education Surveys Branch. George Sanders conducted the early stages of planning, particularly pretesting the survey instruments. Nicholas Osso later assumed responsibility for the planning, supervised the mailing of instructions and survey forms to the States and to individual teachers, and directed the tabulation of the returns. Robert Fellows and Ronald Fisch assisted in preparing and calculating the appendix and text tables.

Robert Calvert, Jr., *Chief*
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INTRODUCTION

The importance of obtaining current information on some of the characteristics of vocational education teachers and their students is underscored by the sharp increase in recent years in enrollment of students and number of teachers. Between 1963 and 1969, both enrollment and number of teachers nearly doubled:

Year	*Enrollments (millions)*	*Teachers (thousands)*
1963	4.2	85
1964	4.6	85
1965	5.4	109
1966	6.1	124
1967	7.0	133
1968	7.5	147
1969	8.0	167

Source: U.S. Office of Education, *Vocational and Technical Education Annual Reports.*

If this rate of increase continues over the next decade, many additional teachers will be needed for the anticipated expansion in enrollments, as well as for the replacement of those who retire, die, or otherwise leave the field. This survey of public vocational education provides background for an analysis of replacement needs and of trends in qualifications by examining the teachers of vocational education. It also provides further insight into the Nation's single largest mode of training young people in occupational skills.

Purpose

The objectives of this survey were:

- to gather information on the backgrounds and teaching loads of vocational education teachers
- to gather information on the personal characteristics and future plans of vocational education students
- to develop a technique for surveying teachers and students that could later be applied in greater depth at State and local levels.

Method

The procedure for sampling teachers and their students involved developing the universe of vocational education teachers by program and level of instruction, selecting the sample of teachers, and selecting a sample class to be surveyed for each teacher. Returned questionnaires were checked for conformity with the sampling plan and were then edited, coded, and tabulated. Details of the survey and other technical aspects of the study are described in appendix B, "Technical Note."

Pretest. The procedures were field-tested in 1968 in three States, to determine both the feasibility of the sampling techniques and the adequacy of the questionnaires. The test was conducted in Connecticut, Iowa, and Maryland through the State Departments of Vocational Education. The States reviewed the completed teacher and student forms and made comments regarding format, clarity, and ease in responding.

Review procedure. Based on the suggestions made by the three States, a revised questionnaire form was developed. A bulletin was sent to all State Directors of Vocational Education outlining the plan and requesting their comments on the revised procedure and forms. Again, comments were reviewed and appropriate revisions made. (See appendix C for instructions and a set of the teacher and student forms.)

The sample. The plan for sampling teachers was based on the annual reports from the States to the Office of Education on the total number of full-time and part-time teachers in each of the seven vocational education programs and the three levels of instruction.[1] Names of teachers of vocational subjects were supplied by the State offices in accordance with instructions provided by the Office of Education. The procedure for selecting a sample resulted in a 4,472-name sample, or 3.8 percent of the universe of teachers of vocational education. Assuming each teacher taught an average of 20 students, the expected sample size of the students was approximately 90,000.

The questionnaire mailout and response. The teacher and student questionnaires and instructions were mailed in April and May of 1969. Substitutions were made only when teachers informed the Office

[1] The seven vocational education programs are: agriculture, distributive education, health occupations education, home economics, office occupations, technical education, and trade and industrial occupations. The three levels of instruction are: secondary, postsecondary, and adult.

of Education, prior to the cutoff date of June 15, that they were unable to respond to the questionnaire for some reason. Because it was so late in the school year, followup was limited to contacts from the State offices. By the time of the cutoff date, questionnaires had been received from 2,574 teachers and 43,111 of their students, or about 58 percent of the total teachers on the original mailing list and 76 percent of students in the sampled classes taught by responding teachers. Analysis suggests several explanations for nonresponse: many teachers were no longer teaching vocational subjects, they were not teaching at the level for which they were selected, or the forms reached them after school had closed for the term. The delay beyond the planned date of the survey also undoubtedly affected the response rate. (See appendix B for more information on responses and nonresponses.)

Data Shown in the Report

The data shown in this report are based on questionnaire returns from 47 States and the District of Columbia.[2] Because of omission of three States and because of sizable proportions of nonresponse—both on the part of part-time teachers and in respect to individual items—the data do not necessarily represent all vocational education teachers and students. In general, however, and particularly for the better reported categories, the results are believed to be a reasonably good representation of teachers and students in vocational education today. In order that the user may have a feel for the size of the sample upon which the findings were based for the various characteristics, each of the appendix tables shows the number actually responding to the particular set of questions.

Two particularly significant consequences of nonresponse should be kept in mind. First, the lack of information from the three nonparticipating States is serious enough to cause distortions in any analysis of characteristics by geographic regions; therefore, no such analyses are presented in this report. The omission also distorts findings related to the differences among large-city schools (located in cities of over 100,000 population) and schools in smaller cities and rural areas. The three omitted States contain some 17 percent (1960 Census) of the total U.S. population and over 28 percent of the large-city population.

Second, the low coverage of adult teachers was partly the result of an incomplete listing, especially of the adult part-time teachers. It is believed that the listing supplied by many of the State offices represented only those teachers who were active at the time of the survey, whereas the intended size of the sample was based on the States' annual reports, which included teachers active at any time during the school year. The response rate was best for teachers at the secondary level, next best for those at the postsecondary level, and least for those at the adult level. Wherever possible, therefore, tables and discussion are limited to information on secondary vocational education teachers and students. Some information on teachers and students at the different levels of instruction was processed together to develop certain tables. All tables are identified according to the specific level or levels covered.

Despite these technical difficulties, this survey is an indication of the type of information that can be obtained about vocational education teachers and students. With the experience gained, a more refined survey to provide State-by-State estimates can be planned.

Three Sections

The data in this report are presented under three headings: (1) vocational education teachers, (2) vocational education classes, and (3) vocational education students. Information for the first two sections comes from the teacher questionnaires, that for the third section from the questionnaires filled out by students in the sampled classes.

[2] Illinois, Indiana, and New York were not included in the survey because of technical difficulties.

VOCATIONAL EDUCATION TEACHERS

Age and Sex

The typical vocational education teacher at the secondary level appears to be a male in his early forties. As may be seen in table 1, nearly 3 out of 5 teachers who responded to the survey were male. The prevalence of teachers in the middle and upper age brackets is true both of men and of women. Nearly half of the male vocational education teachers were in the 30-to-44 age group, 34 percent were 45 years old and over, and the remainder (19 percent) were under 30 years old.

Table 1.—Age and sex distribution of secondary vocational education teachers: 47 States and the District of Columbia, spring 1969

[In percent]

Age group	Both sexes	Male	Female	Female, as percent of total
Total	100.0	100.0	100.0	41.7
Under 30 years	20.5	18.9	22.9	46.4
30–44 years	43.6	46.8	39.1	37.5
45 years and over	35.9	34.3	38.0	44.2

Source: Appendix A, table A–1.

Female vocational education teachers were about equally distributed between the middle and upper age groups, whereas 23 percent were under 30 years old. As might be expected, the proportion of women was somewhat lower than that of men in the 30-to-44 age bracket, which encompasses the bulk of the child-rearing period; yet it is high enough to suggest that there are substantial numbers of married women teachers who are either childless or who combine homemaking with employment.

Nearly half the teachers in trades and industry and more than two-fifths of home economics teachers were 45 years of age or over. In both cases, the age distribution suggests an outlook for particularly high replacement demands due to retirement. Agriculture, health, office, and technical education also are served by a high proportion of older teachers, although the majority are in the 30-to-44 age bracket.

Further details on the age and sex distribution of vocational education teachers by program area will be found in appendix A, tables A–1 and A–2.

Length of Teaching Experience

Three out of five (62 percent) vocational education teachers (in this case, including responses from secondary, postsecondary, and adult levels) had fewer than 10 years of teaching experience—in vocational subjects or otherwise. Median experience in vocational education alone was less than 5 years in 1969.

The length of experience varies, of course, with the age of the teacher. Of the under-30 group, only one out of six teachers had been able to accumulate more than 4 years of total teaching experience. Better than three out of five of those 45 and over, by contrast, had 10 years or more of total teaching experience and 5 years or more of vocational experience.

Generally, female teachers have accumulated moderately more total teaching experience, at any age level, than male teachers. The reverse is true, however, of vocational education experience. While little more than one-third of female teachers 45 and over had 10 years or more of vocational teaching experience, more than half the male teachers in the same age bracket had such experience.

A comparison between experience in general teaching and experience in vocational teaching is given in table 2.

Table 2.—Years of vocational education teaching experience compared with total years of teaching experience (all levels of instruction combined): 47 States and the District of Columbia, spring 1969

[Cumulative percentages]

Length of teaching experience	Total teaching experience			Vocational teaching experience		
	Both sexes	Male	Female	Both sexes	Male	Female
20 years or more	13.5	13.0	14.1	8.9	9.9	7.6
15 years or more	22.3	22.4	22.3	14.7	16.8	11.7
10 years or more	37.4	36.7	38.4	24.9	26.7	22.4
5 years or more	62.1	61.2	63.5	44.1	46.3	41.0

Source: Appendix A, table A–3.

Both total teaching and vocational teaching experience are greatest among teachers of agricultural subjects. Home economics teachers tend also to have had longer experience overall, but somewhat less so in their specialty. Experience levels are lowest in distributive education, health occupations, and technical education.

Further details on length of teaching experience may be found in appendix A, tables A–3 and A–4.

Type and Size of School

About 75 percent of secondary vocational education teachers teach in regular or comprehensive schools. (See appendix E for definitions.) Nearly a fourth of the teachers in the sample teach in vocational and technical schools. (See table 3.)

Table 3.—Distribution of secondary vocational education teachers, by type of school: 47 States and the District of Columbia, spring 1969

Type of school	Percent distribution
Total	100.0
Regular/comprehensive	75.4
Vocational/technical	22.8
Secondary	19.5
Postsecondary	.2
Combined	3.1
Junior college	.1
Special (trade)	.5
Other	1.2

There was little difference by sex for the responding secondary, postsecondary, and adult vocational teachers in different types of schools, although vocational and technical schools had a slightly higher proportion of males than average, and regular secondary schools a slightly lower proportion. Except for community/junior colleges, there was also little difference in age distribution of teachers, although those in vocational and technical schools did tend to be slightly older than teachers in regular secondary schools. Teachers in community/junior colleges were, for the most part, significantly older. Further details on distribution by type of school, including cross-classification by age and sex, may be found in appendix A, table A–5.

More than half (56.2 percent) of vocational teachers (all levels of instruction combined) were employed in schools with more than 1,000 students, compared with one out of five teachers in schools having fewer than 500 students. (See table 4.) Vocational and technical schools tended to be smaller than regular schools. Roughly two out of five teachers in all vocational and technical schools were at schools with an enrollment of fewer than 500.

Table 4.—Distribution of vocational education teachers (all levels of instruction combined), by size and type of school: 47 States and the District of Columbia, spring 1969

[In percent]

Type of School	Total	Enrollments		
		1–499	500–999	1,000 and over
Total	100.0	20.0	23.8	56.2
Regular or comprehensive	100.0	17.5	26.8	55.7
Vocational and technical	100.0	40.8	33.3	25.9
Secondary	100.0	35.1	38.4	26.5
Postsecondary	100.0	47.1	32.3	20.6
Combined	100.0	37.1	27.0	35.9
Colleges, 2-year	100.0	3.7	9.2	87.1
Colleges, 4-year	100.0	9.5	4.8	85.7
Special secondary (trade)	100.0			100.0
Other	100.0	25.0	25.0	50.0

Colleges (virtually all community or junior colleges so far as vocational education is concerned) had the largest average enrollments. A scant 4 percent of college-level vocational teachers were attached to institutions enrolling fewer than 500 students; seven out of eight taught in colleges with more than 1,000.

Degree of Specialization

As confirmed by sources other than the survey covered by this report,[3] the greatest numbers of vocational education teachers were in trades and industry programs, followed by office occupations

[3] *Vocational and Technical Education Annual Report*, U.S. Office of Education, 1969 (to be published).

nd home economics. The smallest numbers were ngaged primarily in distributive education and in ealth occupations. More than one-fourth of dis- ibutive education teachers in the survey, further- ore, reported a secondary specialty in office occu- ations (but only 10 percent of office occupations eachers reported a secondary specialty in distribu- ive education). Very few teachers in health occu- ations had a secondary specialty. The large num- er of trades and industry teachers was further olstered by the more than one out of three tech- ical education teachers who made trades and ndustry their secondary specialty. By contrast, fewer han one in 15 trades and industry teachers had a econdary specialty in technical education. (See ap- endix A, table A–6.)

Academic Qualifications

Almost three out of four (74.3 percent) of the esponding secondary, postsecondary, and adult vo- ational education teachers had a bachelor's degree r better, and at least one out of three had a master's legree or better. Approximately 13 percent of the eachers reported a degree other than the bachelor's, naster's, or Ph.D.; presumably, many of these had ssociate or normal-school certificates, or were regis- ered nurses.

Lack of an academic degree of any kind was more ommon among male vocational education teachers han among female teachers. Only 6 percent of the atter were without degrees, compared with 18 per- ent of the former. Many teachers who lack academic legrees qualify for teaching on the basis of actual ork experience in their field.

Older teachers are more likely to lack an academic legree than younger ones. Only 5 percent of the ocational teachers under 30 were without degrees, ompared with 13 percent in the 30-to-44 bracket nd 16 percent of those over 45. This degree break- lown by age group applies principally to males. Although there were similar age-related differences or females, not more than 7 percent were without legrees even in the 45-and-over age bracket. In omparison, 23 percent of the male teachers in the 5-and-over age bracket and 17 percent in the 30-to- 4 bracket lacked academic degrees.

Age played a different role with regard to ad- anced degrees. Of female teachers with degrees, nly 19 percent of those under 30, 28 percent of hose 30 to 44, and 36 percent of those 45 or over had advanced degrees. Presumably because of the larger number of older teachers drawn from the ranks of trade and industry, the correspondence between age and advanced degree holders is less consistent for male teachers. Thirty percent of the male degree-holders under 30 years of age held an advanced degree, compared with 50 percent of those in the 30-to-44 age bracket and 43 percent of those 45 or over. Doctorates were held by only 1 percent of the vocational education teachers, and relatively more of these were held by men than by women. Male teachers also held relatively more of the master's degrees. (See appendix A, table A–7.)

Degree-holding was highest among teachers in agriculture, distributive education, home economics, and office occupations; lowest in health, technical education, and trades and industry. Only about 2 to 3 percent of each of the first-named groups lacked academic degrees, while 30 percent of technical education teachers and nearly 40 percent of trades and industry teachers held no degree. This, of course, explains the higher proportion of male teachers without academic degrees. Advanced degrees were most prevalent in distributive education (where more than half had such degrees), office occupations (almost half), and agriculture (over two-fifths). Advanced degrees were least common among teachers in home economics and, apparently, health, technical education, and trades and industry. For the latter three programs, the large proportion of "other" degrees reflects the many teachers in these fields who had earned degrees of less than the baccalaureate. Appendix A, table A–8, summarizes degree-holding among the reporting teachers.

Type of Teaching Certificate

Almost as many of the responding vocational teachers (all levels of instruction combined) held a regular teaching certificate as held a vocational teaching certificate. The proportion having vocational certificates varied directly with age; almost half of those 45 and over held vocational certificates, while more than two-fifths of those under 30 held regular certificates. The proportion holding temporary certificates (8 percent on the average) declined according to age of the teacher.

The foregoing trends apply both to males and females; but male vocational teachers were substantially more likely to have a vocational certificate—about two-thirds more likely for the 45-and-over age group. Females holding regular certificates exceeded those holding vocational certificates in all age groups, especially among those under 30. (See appendix A, table A–9.)

The most specialized group was the teachers of trades and industry, two-thirds of whom had vocational certificates. A majority of vocational certificates was also found in technical education and in health occupations; in all other program specialties, regular certificates prevailed. Nearly four times as many office occupations teachers had regular certificates as had vocational certificates, and nearly twice as many distributive education teachers had regular certificates. (See appendix A, table A–10.)

Earnings[4]

Median earnings of responding vocational education teachers (all levels of instruction combined) were approximately $8,700 for a contract year in 1969. This was true for both those with school-year (9–10 month) contracts and those with calendar-year (11–12 month) contracts. Earnings appeared to be highest among technical education teachers ($9,600) and next highest among agriculture and distributive education teachers ($9,000 in each case). Lowest median contract earnings were reported by home economics teachers ($7,800) and teachers of health occupations ($8,000).

As might be expected, there was a distinct correlation between earnings and years of teaching experience. There was a similar correlation between earnings and length of experience in teaching vocational education subjects. The correlation loses force beyond the 20-year mark, however, as may be seen in table 5.

Because of the obvious relationship of experience to age, younger teachers earned less than older ones. The median for those under 30, for example, was $7,300; for those 30 to 44, $8,800; and for those 45 and over, $9,500. Male teachers had higher median earnings ($9,200) than female teachers ($8,000) despite their lesser average teaching experience. The sex-related difference for those 30 and over was twice that for teachers under 30, as may be seen in appendix A, table A–11.

Table 5.—Median earnings of vocational education teachers (all levels of instruction combined), in relation to length and type of teaching experience: 47 States and the District of Columbia, spring 1969

Length of teaching experience	Median earnings	
	Total teaching experience	Vocational education teaching experience
0 – 4 years	$7,900	$8,100
5 – 9 years	8,800	9,200
10 – 14 years	9,900	10,000
15 – 19 years	10,000	10,800
20 years and over	10,000	10,000

Source: Appendix A, table A–11.

Median earnings of all teachers with degrees of any type ($8,800) were only slightly (about $200) higher than earnings of those who held no degree. Teachers holding a bachelor's, master's, or doctor's degree had median earnings of $8,900. Those with a bachelor's degree earned $8,100, as a median; those with a master's or better, in excess of $10,000. (Returns were too few for those with a doctorate for dependable conclusions to be drawn, but the median for this group appeared to exceed $11,000.)

Teachers in vocational and technical schools (all levels) earned significantly more (median of $8,400) than those in regular or comprehensive schools ($8,100). The higher median was accounted for,

Table 6.—Median earnings of vocational education teachers (all levels of instruction combined), by size of community and size of school: 47 States and the District of Columbia, spring 1969

Category	Median earnings
Size of community:	
Large city	$9,900
Suburb of large city	9,500
Small city or town	8,400
Rural area	7,800
Size of school:	
Over 1,000 enrollment	$9,700
500 – 1,000	8,400
Under 500	7,800

Source: Appendix A, table A–11.

[4] This discussion confines itself to a description of differences, by characteristics of teachers, in median earnings. Percentage distributions of earnings may be found in appendix A, table A–11. It should be noted that, owing to sampling and response errors, differences in median earnings of less than $300 per year are not likely to be statistically significant.

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however, by teachers in postsecondary vocational schools ($8,600) and combined secondary/postsecondary schools ($8,700). Those in secondary vocational schools were at approximately the $8,000 median level. Vocational teachers at the college level had median earnings of $10,800.

Regardless of school, vocational teachers with regular teaching certificates earned more than those with vocational certificates—a median of $9,100 compared with one of $8,600. Those with temporary certificates were lowest, at $7,900.

The larger the community and the larger the school, the higher the median earnings, as may be seen in table 6.

VOCATIONAL EDUCATION CLASSES

Data reported by teachers in the survey provide information on class sizes and other characteristics of classes in 1969. These are discussed in the following paragraphs. See appendix A, table A–12, for details.

Size of Class

The average size of a secondary-level vocational education class appeared to be 21 students. The largest class size occurred in office occupations (26); the smallest, in agriculture (17). The rest of the programs ranged between 20 and 22 students.

Completion Records

Secondary vocational courses lost 11 percent of their membership, on the average, between opening and closing dates in 1969. This loss occurred more because of transfers from the particular course (6 percent) than because of dropouts from the school (5 percent). The school/course dropout rate was highest for courses in health occupations and lowest in home economics, office occupations, and technical education.

Approximately 10 percent of the students in vocational courses at the time of membership closing did not complete them for credit. The percentage of course completions was lowest in trades and industry. Health occupations and technical education were about average. Course completions for the rest of the programs were well above average.

Periods per Week

The average vocational education class at all levels of instruction was scheduled for 4½ periods a week.[5] This was essentially true for all programs, although it appears that for distributive education and for home economics the average may have been closer to four. There was a rather large proportion of classes, however—more than one-fifth—scheduled for six or more periods per week. This was particularly true in health occupations, technical education, and trades and industry, fields which usually require two or more class periods per day.

[5] Class periods varied in different schools and programs, ranging from 30 minutes to 6 hours.

VOCATIONAL EDUCATION STUDENTS

Taken as a whole, students attending vocational classes in 1969 were an approximate cross section of the total population of comparable age groups. There were slightly more females than males; some 14 percent of the enrollees were Negro; about 7 percent, other minority groups. Considerable differences may be found, however, among vocational programs.

Sex and Age

Female students were heavily concentrated in health occupations, office occupations, and home economics; males, in agriculture, technical education, and trades and industry. Although about as many males were studying distributive education as technical occupations, the former field had a somewhat more nearly equal balance between the sexes. Table 7 shows males and females by program.

Table 7.—Sex distribution of secondary vocational education students, by program: 47 States and the District of Columbia, spring 1969

[In percent]

Program	Male	Female
All programs	49.4	50.6
Agriculture	99.3	.7
Distributive education	49.5	50.5
Health occupations	4.3	95.7
Home economics	3.3	96.7
Office occupations	12.0	88.0
Technical education	91.8	8.2
Trades and industry	85.5	14.5

Source: Appendix A, table A–13.

The substantially lower proportion of females, compared with males, under 18 enrolled in secondary-level courses and the equally higher proportion of females aged 18–19 suggest later vocational decisions by girls than by boys. Were it not for the large number of girls taking home economics and technical education at ages 16 and 17, this discrepancy would be even more pronounced, (See appendix A, table A–13.)

Grade Level

Because there are normal variations between chronological age and grade in school, grade level gives a somewhat better indication than age of the relationship between school progress and vocational education choices. Nearly half of the secondary vocational students were in the 12th grade and nearly a third were in the 11th grade. Males were about equally divided between these two grades, whereas twice as many females were in the higher grade as in the lower. (See appendix A, table A–14).

Grade Level and Year in Program

Students tend to specialize in their program choice at different times in their school years, depending on the program in which they are enrolled. The following discussion summarizes the period and length of specialization for each program. Further details may be found in appendix A, tables A–14, A–15, and A–16.

Agriculture. Students in this program specialty were spread fairly evenly throughout the first 3 years of high school, with secondary concentrations appearing in the 12th grade. This specialty, which attracted only a very small number of female students, appeared to be predominantly a 3-year program, which most students took in their ninth, 10th, and 11th grades. However, around one-third had pursued it for only 1 year. Attrition between the ninth and the 11th grades appeared to be on the order of one-fifth each year.

Distributive. By far the largest concentration of students in this program was in the 12th grade, about evenly divided between females and males. There was a secondary concentration in the 11th grade. The distribution reflected the apparent fact that this was a senior-year (high school) program for about half of the students. Most of the others were taking it as a 2-year program in their junior and senior years.

Health occupations. About three out of five high school students enrolled in this program specialty took it as a 1-year program in the 12th grade. Most of the balance took it only in the 11th grade. There were very few males in this program area.

Home economics. This program, which attracted about as few males as did the health occupations program, was started and ended by about 20 per-

cent of the home economics students in their first year in high school. However, almost two-thirds were pursuing it for 2 years or more, many for the balance of their high school years. Some students had postponed their 1-year course to their senior year, with the result that home economics students were diversely spread throughout the grade levels, with the highest concentrations in the ninth and 12th grades.

Office occupations. The heavy enrollment in these courses by otherwise unspecialized students who were seeking job qualification was reflected in the fact that 30 percent of the high school students who studied office occupations did so only in their senior year. Of the 70 percent who were pursuing this specialty for 2 years or more, at least one out of five were pursuing it for all 4 years.

Technical education. This overwhelmingly male program is usually taken most in the third or fourth year of high school. Roughly half the high school students in this program had been following it for at least 2 years but very few had done so for the full 4 years.

Trades and industry. About three out of five high school trades and industry students were in the program for more than 1 year. Most of these were pursuing it for 2 years, starting in their junior year. More than half the junior-year starters, however, had dropped the program before their senior year.

Marital and Family Status

Among the secondary students in 1969, nearly 6 percent of the females and 2 percent of the males were then or had been married. The average held fairly steady among the programs with the exception of health occupations, which appeared to draw a very high proportion of married females. (See appendix A, table A–17.)

Almost one out of five vocational students at all levels of instruction was the head of his or her own household. (This included students living by themselves.) Two-thirds lived with parents or a guardian, and most of the balance were wives of heads of households. Typically, student household heads were part of a two-person family. Large proportions, however, also headed three- and four-person families.

Almost one out of 10 students who lived with their families reported a female-headed household. The proportion was very high (about two out of five) for students living with a single parent or guardian, but it was also high (15 percent) for those reporting a three-person family. (See appendix A, table A–18.)

Family Income

Most students living by themselves had incomes of under $6,000 per year; the majority of the other student household heads had incomes above the $6,000 level.

About three-fourths of the students who lived with their families reported a family income of over $6,000 per year. Only about 7 percent reported family incomes of under $3,000.

Family income, for the majority of secondary students, exceeded $6,000 regardless of whether they lived in urban, suburban, or rural areas. The highest income levels, however, were reported by students living in suburban areas, where more than half their families were at the $10,000-and-over level and 86 percent were at the $6,000-and-over level. Because of the omissions from the survey, data for large-city dwellers are not dependable, but about 72 percent of those covered reported family incomes in the $6,000-and-over brackets. A slightly higher percentage was reported for smaller cities and 61 percent for rural families. (See appendix A, table A–19.)

Families of students living in large cities were the most likely to be female-headed—about 17 percent. The proportion decreased for smaller cities. Students from rural districts and from suburbs reported nearly 9 percent of their families had females as head of households.

As might be expected, the higher the educational level of the head of the student's family, the higher

Table 8.—Median annual income of families of secondary and postsecondary students, by educational attainment of family head: 47 States and the District of Columbia, spring 1969

Educational attainment of family head	Median annual income
Median	$8,500
Less than 8th grade	5,800
Completed 8th grade	7,400
Some high school	7,600
Completed high school	8,800
Some college	8,800
2-year college	9,400
4-year college	10,800

the family income. Median family income for all secondary and postsecondary students was around $8,500, but for those where the head of household had less than an eighth grade education, it was only $5,800. Medians of annual family incomes are shown in table 8.

Minority Group Participation

At 20 percent of total vocational education students, minority-group (Negro and other) participation in vocational education courses was significantly higher than their proportion in the population of the 14-to-24 age group (13.2 percent). Moreover, it just as significantly exceeded the percentage of minority group teenagers and young adults who were enrolled in school (12.5 percent).[6]

Nearly 14 percent of the vocational education participants at the secondary level were Negro. This was slightly higher than Negro representation in both the corresponding population group and those enrolled in school. Among the other minority groups, 3.7 percent were Spanish-surnamed Americans, 2.6 percent were American Indian, and 0.5 percent were Oriental.

The relatively high participation of Negroes at the secondary level is explained by particularly high enrollment in trades and industry courses, where 18 percent of male students and 42 percent of female students were Negro. Disproportionately large participation also occurred among Negro females in health occupations (over 23 percent of all groups). Approximately average participation occurred among Negro females in home economics and among Negro males in agriculture.

Labor Force Status

About half the total of secondary and postsecondary students worked at least part time, and the proportion was greater as the family income was higher. The implication is that employed students were making a significant contribution to their families' incomes. Roughly 34 percent of those with family income of under $3,000 had some sort of job. Jobs also were held by 45 percent of those with family incomes of $3,000–$6,000, 53 percent with family incomes of $6,000–$10,000, and 57 percent with family incomes of $10,000 or over.

Of those students who had jobs, nearly three out of five, at all income levels, worked between 15 and 34 hours per week. Nearly a fourth worked at full-time jobs, except for the lowest income level where the proportion was about 16 percent. (See table 9.)

Table 9.—Hours of work per week of employed secondary and postsecondary students, by family income: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Labor force status and hours of work per week	Total	Less than $3,000	$3,000–$5,999	$6,000–$9,999	$10,000 and over
All students	100.0	100.0	100.0	100.0	100.0
Students not working	49.4	66.4	55.1	47.4	43.2
Students working, total	50.6	33.6	44.9	52.6	56.8
1–14 hours	9.1	8.7	8.6	9.4	9.2
15–34 hours	29.8	19.6	26.0	30.1	34.6
35 hours and over	11.7	5.3	10.3	13.1	13.0
Students working, total	100.0	100.0	100.0	100.0	100.0
1–14 hours	18.0	26.0	19.3	18.0	16.1
15–34 hours	58.9	58.2	57.8	57.1	61.0
35 hours and over	23.1	15.8	23.0	25.0	23.0

Male students were employed more often than female students were. Of those employed, a greater proportion (29 percent compared with 10 percent) were employed full time (35 hours per week or longer). About a fourth of the female students and a sixth of the male students worked fewer than 15 hours. (See table 10.)

Proportionately more white students (excluding Spanish-surnamed Americans) than Negroes were employed; nearly half of the former had jobs, compared with 29 percent of the latter. The relationship of sex of student to hours of work among employed Negro students followed the same pattern as for all students; that is, more male than female Negro

[6] U.S. Bureau of the Census, *Current Population Reports*, Series P–20, No. 190, "School Enrollment: October 1968 and 1967," 1969; and Series P–25, No. 441, "Estimates of the Population of the United States, by Age, Race, and Sex: July 1, 1967, to July 1, 1969," U.S. Government Printing Office, Washington, D.C., 1970.

Table 10.—Hours of work per week of employed secondary and postsecondary students, by race: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Labor force status and hours of work per week	Total	White[1]	Negro
Total, both sexes			
Percent working	46.9	49.2	28.6
Students working	100.0	100.0	100.0
1–14 hours	19.2	18.8	25.1
15–34 hours	58.9	59.4	51.2
35 hours and over	21.9	21.8	23.7
Male students			
Percent working	58.1	60.6	35.1
Total working	100.0	100.0	100.0
1–14 hours	15.5	15.2	20.8
15–34 hours	55.3	55.8	47.2
35 hours and over	29.2	28.0	32.0
Female students			
Percent working	35.6	37.4	23.2
Total working	100.0	100.0	100.0
1–14 hours	25.4	25.0	30.3
15–34 hours	64.9	65.7	56.2
35 hours and over	9.7	9.3	13.5

[1] Excludes Spanish-surnamed Americans.

students were working, and more males were working full time.

Older students were more likely to be employed than were younger students. Of working students age 20 or over, a greater proportion (about 40 percent) were employed full time; of these, women comprised only a fifth. More than half the total number of students working 15 to 34 hours a week were in the 18-to-19 age group, about equally divided between males and females. (See appendix A, table A–21, for more details.)

Over half of all employed secondary and postsecondary students [7] had jobs that were related to the programs they were pursuing. About two out of five such program-related jobs were generated by cooperative-education programs; the balance were otherwise arranged or had been the student's job before he started on his program of study. Roughly three out of four cooperative-education jobs required between 15 and 34 hours a week on the job. Fewer than 20 percent of such students worked full time at their cooperative jobs, while 25 percent of other employed secondary and postsecondary vocational students worked full time. (See table 11.)

Table 11.—Work-study relationship and hours of work per week of employed secondary and postsecondary students: 47 States and the District of Columbia, spring 1969

	Percent distribution
Total employed students	100.0
Jobs related to program	32.7
1–14 hours	7.2
15–34 hours	16.7
35 hours and over	8.8
Cooperative-education programs	23.7
1–14 hours	2.5
15–34 hours	16.6
35 hours and over	4.6
Jobs unrelated to program	43.6
1–14 hours	11.3
15–34 hours	24.2
35 hours and over	8.2

Source: Appendix A, table A–22.

Cooperative education jobs were most common in the field of distributive education, in which 60 percent of the students were so engaged; an additional 25 percent of the students in this field were in program-related jobs. No other field had such a high concentration of students in related employment of the one type or the other.

Agriculture students were most likely to be in program-related jobs (nearly 65 percent), possibly because they lived on farms and contributed their services to the family business. High proportions of program-related jobs also were found in health occupations.

The majority of employed students in technical education (73 percent), home economics (63 percent), trades and industry (59 percent), and office occupations (52 percent) were in jobs that were not related to their program specialties. (See appendix A, table A–22.)

[7] The method of tabulating data for this section did not allow for showing these two levels separately.

Course Load

The average secondary-level vocational education student carried about 4.5 courses. Among the various programs, however, there is a fairly wide range.[8] At the low end, students in health occupations and in trades and industry averaged about 3.5 courses. This compares with an average load taken by home economics and agriculture students, of whom nearly 85 and 75 percent, respectively, were taking five or more courses. (See appendix A, table A–23.)

Student Plans

About half of all secondary-postsecondary vocational students planned to seek employment once they concluded their vocational courses, and about eight out of nine of those who planned to get jobs expected to do so in their field of training. There were interesting differences in intention, however, depending upon program specialty and upon how far ahead the year of completion of their vocational program was.

Generally, the further off his graduation date, the more likely a student was to plan on further education rather than on an immediate job. There were some anomalies, however. Possibly because of a more realistic view of their job prospects, 38 percent of students completing their vocational program in 1969 planned to continue their education, while this was the intention of only 30 percent of those completing their program in 1970. Of those whose completion date came in 1971, 36 percent looked forward to continuing their education, and for the 1972 class it was 41 percent. Data for the 1973 group were inconclusive because of the high proportion still undecided.

Conversely, with the exception of 1969 graduates, the further off the student's graduation date, the less likely he was to plan on immediate postvocational education employment. Compared with 50 percent for the 1969 group, 57 percent of the 1970 class, 48 percent of the 1971 class, 43 percent of the 1972 class, and 38 percent of the 1973 class looked forward to immediate employment.

Views on the desirability of joining the Armed Forces seemed to be correlated with how far off the prospect was: 6 percent of the 1969 class, 8 percent of the 1970 class, 10 percent of the 1971 and 1972 classes, and 13 percent of the 1973 class had military service in mind.

Regardless of the year of graduation, the overwhelming majority of those planning on a continued education (75 percent) expected to do so with the aid of a part-time job. This proportion held fairly steady over the 5 years.

The intention of seeking employment in their field of training ran highest by far (around 74 percent) among those studying health occupations. Except for a negligible proportion of students, this was a 2-year program. Among those with a year of study remaining, 79 percent expected to find jobs in their specialty; a somewhat lower percentage (72 percent) of same-year graduates had this outlook.

Only among office occupation students was there similar expectancy of immediate employment in their specialty for as many as half the students. However, this expectation among technical education and trades and industry students fell only slightly short of half.

Fewer than one out of five home economics students looked on these courses as job preparation; most home economics students planned to continue their education—the highest proportion among all vocational students. Also, relatively small proportions of agriculture students (29 percent) and distributive education students (37 percent) looked upon their vocational training as leading to immediate employment in their program specialty. About three out of five students in these programs expected to continue their education, mostly accompanied by part-time jobs. (See appendix A, table A–24.)

Program Choices, by Parental Education and Occupation

Given the method of data collection for this survey, the tabulations provide only a rough indication of the distribution of parents (heads of households) by education and occupation and the relationship thereof to the students' program choices. It does appear, however, that about half of the parents of secondary students had completed high school. Nearly one out of five of their parents had had at least some college education, compared with at least one out of four who had not studied beyond the eighth grade.

[8] The number of courses taken by students may vary according to the type of program in which they are enrolled. For example, an office occupations student may take four or five courses as part of his program, whereas a health occupations student may take a comprehensive program consisting of several subjects but classified as one course.

Relative education attainment appears to be highest among the parents of students in the distributive education and technical education programs, lowest among those in agriculture and in trades and industry. More than one-third of the parents of students in agriculture and almost as large a proportion of the parents of trades and industry students had advanced no further than the eighth grade. (See appendix A, table A–25.)

At least three out of five of the parents of the secondary-level vocational students who reported occupation for "head of household" were blue-collar workers; almost half of the employed parents fell within the category "craftsmen and foremen." These and "operatives" were particularly predominant among the parents of secondary students in technical education and in trades and industry. While blue-collar workers predominated among the parents of secondary students in all the other programs as well, there was an unusually high number of white-collar workers among the parents of those students enrolled in distributive education, home economics, and office occupations programs.

Very few of the agriculture students appear to have entered into this program by way of "following in their father's footsteps." Relatively few more entered into distributive education because their fathers were salesmen or into office occupations because their fathers were clerks. This is in sharp contrast, as already noted, with students in trades and industry, about half of whom were following a family precedent. (See appendix A, table A–26.)

Location of School in Relation to Location of Residence

Undoubtedly because of the availability of what are considered appropriate facilities, students frequently take their vocational education in a more urbanized area than the one in which they live. Only 40 percent of those living in rural areas, for example, were at school in rural areas; the majority attended school in a small (presumably nearby) urban center. More than four out of five of the small-city residents apparently went to school where they lived. Nearly 70 percent of those living in large-city suburbs went to school in large-city suburbs; over 20 percent traveled to the large city. Over 90 percent of the large-city dwellers were getting their vocational training in large cities. (See table 12.)

Table 12.—Location of school in relation to location of household of secondary vocational education students: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Location of school	Location of household			
	Large city	Suburb	Small city	Rural
Total	100.0	100.0	100.0	100.0
Large city	93.5	20.5	1.6	2.0
Suburb	3.2	68.5	4.7	2.5
Small city	2.0	8.6	83.3	55.2
Rural	1.3	2.4	10.4	40.4

Appendix A

Statistical Tables

Statistical data in this section are presented only as percentage distributions for the various characteristics. Within tables, percentages may not add to 100.0 because of rounding.

It should be noted that percentage distributions for the same items may differ from table to table. This disparity is the result of nonresponse to certain items. Because of differences in sampling and response rates, the data shown for combinations of programs or combinations of levels of instruction are generally less reliable than those representing a single program at a single level of instruction.

The data in all tables exclude Illinois, Indiana, and New York. The data on teachers by level and program represent numbers reported by State officials as their listings at the time of the survey.

Table A-1.—Secondary vocational education teachers—sex distribution, by age group and program specialty: 47 States and the District of Columbia, spring 1969

[In percent]

Program	Total		Under 30 years		30–44 years		45 years and over	
	Male	Female	Male	Female	Male	Female	Male	Female
Total....(N=1,299).....	58.3	41.7	53.6	46.4	62.5	37.5	55.8	44.2
Agriculture.....	100.0	----	100.0	----	100.0	----	100.0	----
Distributive education.....	81.2	18.8	81.4	18.6	87.5	12.5	69.1	30.9
Health occupations.....	.7	99.3	----	100.0	----	100.0	2.3	97.7
Home economics.....	1.1	98.9	1.9	98.1	----	100.0	1.2	98.8
Office occupations.....	28.4	71.6	26.5	73.5	33.3	66.7	23.4	76.6
Technical education.....	95.8	4.2	85.7	14.3	98.1	1.9	96.6	3.4
Trades and industry.....	89.9	10.1	95.2	4.8	92.0	8.0	87.1	12.9

Table A-2.—Secondary vocational education teachers—age distribution, by sex and program specialty: 47 States and the District of Columbia, spring 1969

[In percent]

Program	Total			Male			Female		
	Under 30 years	30–44 years	45 years and over	Under 30 years	30–44 years	45 years and over	Under 30 years	30–44 years	45 years and over
Total (N=1,299)..	20.5	43.6	35.9	18.9	46.8	34.3	22.9	39.1	38.0
Agriculture.....	21.0	41.9	37.1	21.0	41.9	37.0	----	----	----
Distributive education...	30.6	45.4	24.0	30.6	48.9	20.4	30.2	30.2	39.5
Health occupations.....	14.7	54.5	30.8	----	----	100.9	14.8	54.9	30.3
Home economics.....	28.0	28.5	43.4	50.0	----	50.0	27.7	28.8	43.5
Office occupations.....	24.9	42.6	32.5	23.2	50.0	26.8	25.5	39.7	34.8
Technical education.....	14.6	55.2	30.2	13.0	56.5	30.4	50.0	25.0	25.0
Trades and industry.....	8.2	43.6	48.2	8.6	44.6	46.8	3.8	34.6	61.5
Other.....	20.0	80.0	----	33.3	66.7	----	----	100.0	----

Table A–3.—Vocational education teachers (all levels of instruction combined)—years of teaching experience, by sex and age group: 47 States and the District of Columbia, spring 1969

[In percent]

Years of teaching experience	Total				Male				Female			
	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over
Total teaching experience (N=2,537)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0–4 years	37.9	84.8	35.8	20.0	38.8	86.6	36.6	21.8	36.5	82.6	34.4	17.8
5–9 years	24.7	15.2	33.6	17.9	24.5	13.4	34.1	15.7	25.0	17.4	32.6	20.7
10–14 years	15.1	-------	20.0	15.5	14.3	-------	18.9	14.0	16.2	-------	21.9	17.5
15–19 years	8.9	-------	8.8	12.9	9.4	-------	8.8	14.3	8.1	-------	8.8	11.2
20 years or more	13.5	-------	1.9	33.6	13.0	-------	1.6	34.2	14.1	-------	2.3	32.8
Vocational teaching experience	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0–4 years	55.9	91.1	58.1	37.7	53.7	91.2	56.9	32.9	59.0	91.0	59.9	43.8
5–9 years	19.2	8.9	25.1	16.5	19.6	8.8	25.9	15.5	18.6	9.0	23.8	17.8
10–14 years	10.2	-------	11.0	13.8	9.9	-------	10.5	13.2	10.7	-------	11.7	14.6
15–19 years	5.8	-------	4.8	9.5	7.0	-------	5.5	12.0	4.0	-------	3.6	6.3
20 years or more	8.9	-------	1.0	22.5	9.9	-------	1.1	26.4	7.6	-------	.9	17.5

Table A–4.—Secondary vocational education teachers—years of teaching experience, by program specialty: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Years of teaching experience	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Total teaching experience (N=1,299)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0–4 years	37.9	23.1	41.5	61.5	26.9	29.4	44.8	43.6
5–9 years	21.9	14.0	26.6	25.2	21.0	22.3	26.0	19.8
10–14 years	15.1	16.7	14.0	9.8	16.1	18.8	17.7	13.6
15–19 years	9.2	17.2	7.9	2.1	10.2	12.7	5.2	7.0
20 years or more	15.9	29.0	10.0	1.4	25.8	16.8	6.2	16.0
Vocational teaching experience	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0–4 years	56.2	27.4	62.9	76.9	48.9	61.4	61.4	58.0
5–9 years	16.6	16.1	21.4	16.1	15.1	14.2	17.7	16.0
10–14 years	10.3	15.6	9.2	5.6	11.3	11.7	12.5	7.8
15–19 years	6.3	15.1	2.2	.7	10.2	5.6	2.1	6.2
20 years or more	10.5	25.8	4.3	.7	14.5	7.1	6.2	12.1

Table A–5.—Vocational education teachers (all levels of instruction combined)—type of school, by sex and age group: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type of school	Total			Male			Female		
	Under 30 years	30–44 years	45 years and over	Under 30 years	30–44 years	45 years and over	Under 30 years	30–44 years	45 years and over
Total (N=2,574)	16.3	46.0	37.7	15.0	49.1	35.9	18.1	41.5	40.3
Regular or comprehensive	22.7	42.3	35.0	21.5	46.2	32.4	24.2	37.3	38.4
Vocational and technical	13.8	49.6	36.5	12.2	50.4	37.4	16.5	48.4	35.1
Secondary	14.7	47.3	38.1	11.7	46.1	42.2	20.4	49.5	30.1
Postsecondary	15.2	53.9	30.9	14.0	57.7	28.4	16.9	48.7	34.4
Combined	10.1	44.7	46.2	9.7	43.4	46.9	10.7	46.7	42.7
Community or junior college	10.4	45.7	43.9	9.6	50.7	39.6	11.7	37.7	50.7
University or college	5.4	67.6	27.0	4.0	60.0	36.0	8.3	83.3	8.3
Specialized secondary (trade)	14.3	35.7	50.0	10.0	20.0	70.0	25.0	75.0	0
Other	8.9	48.3	42.7	13.7	61.1	25.0	5.7	39.7	54.7

Table A–6.—Vocational education teachers (all levels of instruction combined)—mobility across program lines, by program specialty: 47 States and the District of Columbia, spring 1969

[In percent]

Major program specialties	Additional specialties reported [1]								
	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry	Other
Total (N=2,573)	18.9	1.4	5.9	.5	.9	2.1	4.7	2.1	1.4
Agriculture	10.9	****	1.1	.4	1.1	.7	2.2	2.9	2.5
Distributive education	16.4	.5	****	.5	.2	10.6	.7	1.8	2.1
Health occupations	5.0	----	.5	****	1.5	----	.2	1.3	1.5
Home economics	6.6	1.0	.7	2.4	****	1.0	----	.7	.7
Office occupations	40.0	1.2	31.9	.2	.9	****	5.4	.2	.2
Technical education	16.3	.8	.4	----	----	.4	****	11.6	3.1
Trades and industry	27.4	4.8	1.1	.2	2.1	.2	18.5	****	.4

[1] Teachers were permitted to report more than one additional specialty.

Table A–7.—Vocational education teachers (all levels of instruction combined)—type of academic degree, by sex and age group: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type of academic degree	Total				Male				Female			
	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over
Total (N=2,574)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bachelor's	41.3	62.9	37.5	36.6	36.2	59.5	32.7	31.2	48.4	66.8	45.5	43.4
Master's	32.1	23.3	35.0	32.5	35.3	27.8	40.5	31.4	27.6	18.1	25.8	33.8
Doctor's	.9	.2	.8	1.3	1.3	.4	1.1	1.8	.4	-------	.2	.7
Other	12.9	8.3	13.8	13.8	9.6	4.8	8.8	12.8	17.6	12.4	22.2	15.2
None	12.8	5.2	12.9	15.8	17.6	7.5	16.9	22.8	6.0	2.7	6.3	6.9
Degree holders	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bachelor's	47.3	66.3	43.0	43.5	43.9	64.3	39.3	40.4	51.5	68.6	48.6	46.6
Master's	36.8	24.6	40.2	38.6	42.9	30.0	48.8	40.7	29.4	18.6	27.5	36.3
Doctor's	1.0	.2	.9	1.6	1.5	.5	1.3	2.4	.4	-------	.2	.8
Other	14.8	8.8	15.9	16.4	11.7	5.2	10.6	16.5	18.7	12.8	23.7	16.3

Table A–8.—Vocational education teachers (all levels of instruction combined)—type of academic degree, by program specialty: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type of academic degree	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
All teachers (N=2,574)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bachelor's	41.2	51.8	40.9	37.3	66.8	47.3	31.8	23.5
Master's	32.1	42.3	52.4	13.4	27.7	46.2	26.7	16.1
Doctor's	.9	1.1	.9	1.8	.3	1.2	.4	.2
Other	12.9	2.5	3.2	38.0	3.5	3.5	11.2	21.8
None	12.9	2.3	2.6	9.5	1.7	1.8	29.9	38.4
Degree holders	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bachelor's	47.3	53.0	41.9	41.2	68.0	48.2	45.3	38.1
Master's	36.8	43.3	53.8	14.8	28.2	47.0	38.1	26.1
Doctor's	1.0	1.1	.9	1.9	.4	1.2	.6	.3
Other	14.8	2.6	3.3	42.1	3.5	3.6	16.0	35.4

Table A–9.—Vocational education teachers (all levels of instruction combined)—type of teaching certificate, by sex and age group: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type of certificate	Total				Male				Female			
	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over	Total	Under 30 years	30–44 years	45 years and over
Total (N=2,570)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Regular	40.4	42.9	40.8	38.9	37.3	38.8	39.8	33.1	44.9	47.7	42.5	46.2
Vocational	44.3	36.7	43.4	48.7	47.1	36.6	45.3	54.2	40.2	36.8	40.3	41.7
Temporary	8.2	14.3	8.1	5.7	8.5	16.3	7.7	6.3	7.8	11.9	8.8	4.9
Other	7.1	6.2	7.6	6.8	7.1	8.4	7.2	6.5	7.0	3.6	8.4	7.2

Table A–10.—Vocational education teachers (all levels of instruction combined)—type of teaching certificate, by program specialty: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type of certificate	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry	Other
Total (N=2,570)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Regular	40.4	48.9	54.7	20.9	47.8	69.2	22.9	17.2	55.6
Vocational	44.3	39.4	31.6	55.4	43.9	19.1	57.0	66.5	16.7
Temporary	8.2	6.2	6.7	15.1	3.8	5.1	10.5	9.3	5.6
Other	7.1	5.5	6.9	8.6	4.5	6.5	9.7	7.0	22.2

Table A-11.—Vocational education teachers (all levels of instruction combined)—earnings, by selected characteristics: 47 States and the District of Columbia, spring 1969

Characteristic	Median	Percent							
		Total	Under $6,000	$6,000–$6,999	$7,000–$7,999	$8,000–$8,999	$9,000–$9,999	$10,000–$10,999	$11,000 and over
Program specialty, total (N=2,210)	$8,696	100.0	5.2	13.7	18.3	18.3	14.0	11.8	18.7
Agriculture	9,021	100.0	1.5	7.5	18.4	21.8	18.0	10.5	22.2
Distributive education	9,015	100.0	1.1	11.0	15.3	22.3	17.7	11.3	21.4
Health occupations	7,957	100.0	4.9	21.6	24.6	19.1	11.5	7.0	11.2
Home economics	7,798	100.0	11.3	24.7	17.6	14.2	10.9	8.8	12.6
Office occupations	8,986	100.0	5.4	11.8	14.5	18.5	12.6	14.0	23.1
Technical education	9,586	100.0	2.3	4.6	15.2	18.4	16.1	18.0	25.3
Trade and industry	8,342	100.0	9.5	14.3	21.6	13.5	11.5	13.3	16.3
Age and sex, total (N=2,183)	8,705	100.0	5.1	13.9	18.2	18.2	14.1	11.8	18.7
Under 30 years	7,296	100.0	10.5	31.1	28.3	18.1	7.3	3.7	1.0
30-44 years	8,830	100.0	4.1	11.2	17.3	21.2	16.1	12.1	18.0
45 years and over	9,477	100.0	3.8	9.2	14.7	15.2	14.9	14.9	27.2
Male, total	9,192	100.0	3.6	9.3	15.9	18.0	16.5	14.0	22.6
Under 30 years	7,627	100.0	6.2	23.8	31.9	21.9	10.0	5.2	1.0
30-44 years	9,285	100.0	3.2	6.8	13.3	21.3	19.0	14.1	22.3
45 years and over	10,005	100.0	2.9	6.2	12.3	12.3	16.2	17.7	32.4
Female, total	8,034	100.0	7.4	20.5	21.5	18.5	10.6	8.5	13.0
Under 30 years	6,855	100.0	15.7	40.1	23.8	13.4	4.1	1.7	1.2
30-44 years	8,029	100.0	5.8	19.1	24.5	20.9	10.9	8.5	10.3
45 years and over	8,757	100.0	5.0	13.1	17.7	18.8	13.3	11.5	20.6
Academic degree, total (N=1,941)	8,776	100.0	4.6	13.5	17.7	18.3	14.4	11.6	19.9
Bachelor's	8,076	100.0	6.7	19.8	22.0	19.7	12.0	10.2	9.6
Master's	10,012	100.0	.6	2.8	9.3	18.5	18.7	15.6	34.6
Other	7,632	100.0	9.8	22.8	27.6	12.6	11.0	5.3	11.0
Teaching certificate, total (N=1,941)	8,776	100.0	4.6	13.5	17.7	18.3	14.4	11.6	19.9
Regular	9,132	100.0	3.9	10.5	15.6	18.0	14.3	13.8	23.8
Vocational	8,558	100.0	5.3	17.2	18.2	16.8	15.1	9.3	18.2
Temporary	7,902	100.0	8.3	17.2	27.1	21.1	10.5	9.0	6.8
Other	8,687	100.0	2.5	9.3	19.5	27.1	14.4	12.7	14.4
Location of school, total (N=2,210)	8,696	100.0	5.2	13.7	18.3	18.3	14.0	11.8	18.7
Large city	9,852	100.0	1.9	8.6	14.4	15.4	11.4	16.4	31.9
Suburb of large city	9,510	100.0	2.5	10.8	10.4	16.2	19.6	10.8	29.6
Smaller city	8,353	100.0	6.1	15.9	20.5	21.1	14.2	10.3	11.8
Rural area	7,784	100.0	10.5	19.5	25.4	15.2	14.1	7.8	7.4

Table A–11.–Vocational education teachers (all levels of instruction combined)–earnings by selected characteristics: 47 States and the District of Columbia, spring 1969–Continued

Characteristic	Median	Percent							
		Total	Under $6,000	$6,000–$6,999	$7,000–$7,999	$8,000–$8,999	$9,000–$9,999	$10,000–$10,999	$11,000 and over
Type of school, total (N=2,210)	8,696	100.0	5.2	13.7	18.3	18.3	14.0	11.8	18.7
Regular/comprehensive	8,137	100.0	6.6	20.6	20.3	18.5	13.5	9.4	11.1
Vocational/technical, total	8,434	100.0	5.9	11.2	23.2	22.3	14.8	11.6	10.9
Secondary	8,011	100.0	13.2	16.5	20.2	18.1	16.5	9.0	6.6
Postsecondary	8,564	100.0	1.6	9.0	24.3	26.8	14.0	12.8	11.5
Combined	8,690	100.0	3.3	7.3	26.0	19.3	14.0	13.3	16.7
Community/junior/senior colleges	10,765	100.0	.6	4.0	7.1	12.0	13.2	17.0	46.0
Size of school (enrollment), total (N=1,612)	8,832	100.0	4.7	13.1	17.1	18.2	14.0	13.3	19.7
1-499 enrollments	7,817	100.0	8.9	17.6	26.2	19.8	13.9	8.6	4.9
500-999 enrollments	8,353	100.0	7.6	13.8	21.4	19.6	15.7	12.8	9.0
1,000 enrollments and over	9,691	100.0	2.0	10.4	12.2	17.1	12.0	15.8	30.5
Years of teaching experience, total (N=1,835)	8,857	100.0	3.7	12.0	17.6	19.5	14.8	12.1	20.3
0-4 years	7,857	100.0	6.8	21.6	25.2	22.9	11.3	7.0	5.1
5-9 years	8,835	100.0	3.1	10.4	18.5	21.5	16.9	14.0	15.6
10-14 years	9,905	100.0	2.1	5.8	11.9	17.3	14.3	16.3	32.3
15-19 years	10,036	100.0	1.1	5.3	16.0	14.9	12.2	14.9	35.6
20 years and over	9,992	100.0	1.4	5.9	7.6	14.9	20.4	13.1	36.7
Years of vocational education teaching experience, total (N=1,835)	8,857	100.0	3.7	12.0	17.6	19.5	14.8	12.1	20.3
0-4 years	8,126	100.0	5.3	19.3	22.7	22.2	14.0	8.5	8.1
5-9 years	9,205	100.0	2.7	7.3	15.6	21.2	16.1	16.1	21.1
10-14 years	10,000	100.0	2.7	4.5	13.5	17.6	11.7	14.4	35.6
15-19 years	10,761	100.0	.7	3.0	14.1	11.1	8.1	17.0	45.9
20 years and over	9,969	100.0	1.9	5.2	7.6	13.3	22.7	13.3	36.0

Table A–12.—Secondary vocational education classes—selected characteristics, by program: 47 States and the District of Columbia, spring 1969

Selected characteristics	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Average class size (number)	24	17	22	20	22	26	20	22
Class periods per week per course								
Average number	4.5	4.7	4.2	4.6	4.3	4.5	4.6	4.9
Percent distribution: All levels, total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
One course	4.9	6.1	5.8	5.7	6.5	2.3	4.0	4.3
Two courses	7.9	4.8	5.9	13.5	8.7	7.7	9.8	8.0
Three courses	12.2	3.4	24.1	8.8	8.3	13.2	14.5	7.9
Four courses	4.7	4.7	4.4	6.1	4.8	4.7	6.3	2.2
Five courses	47.1	62.1	50.5	18.5	65.7	60.4	21.6	23.9
Six courses or more	23.2	18.8	9.3	47.4	6.0	11.8	43.9	53.7
Student movement (in percent)								
Membership, opening	100	100	100	100	100	100	100	100
Pupil transfers, in	3	1	5	–	4	3	3	3
Pupil transfers, out	6	3	9	4	6	8	7	5
School dropouts	5	4	4	10	3	3	3	7
Membership, closing (net)	92	94	92	86	95	92	93	91
Successful completions	82	88	88	78	88	87	81	65

Table A–13.—Secondary vocational education students—sex and age group, by program specialty: 47 States and the District of Columbia, spring 1969 [Percent distribution]

Age and sex	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Total (N=22,056)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15 years and under	6.7	17.3	.2	.8	23.6	2.6	2.1	1.3
16–17 years	37.3	55.3	21.4	22.6	42.2	33.6	52.2	39.2
18–19 years	50.3	26.2	73.2	50.2	33.0	62.4	42.3	51.9
20–29 years	4.4	1.1	4.9	15.5	1.0	1.2	3.2	6.6
30 years and over	1.3	(1)	.4	10.8	.2	.2	.2	.9
Male	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15 years and under	5.8	17.3	(1)	----------	14.8	6.5	2.3	1.4
16–17 years	41.5	55.5	18.3	27.3	24.1	39.9	52.4	39.7
18–19 years	47.5	26.1	73.5	56.8	56.5	50.7	42.0	51.3
20–29 years	4.7	1.1	7.8	13.6	3.7	2.4	3.3	6.6
30 years and over	.5	(1)	.5	2.3	1.0	.4	(1)	1.0
Female	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15 years and under	7.6	18.2	.2	.9	24.0	2.0	.7	1.0
16–17 years	33.3	36.4	24.5	22.4	42.8	32.7	50.4	36.3
18–19 years	52.9	40.9	73.1	50.0	32.2	64.0	46.0	55.3
20–29 years	4.1	4.5	2.0	15.6	.9	1.0	2.2	7.0
30 years and over	2.1	----------	.2	11.2	.1	.3	.7	.5

[1] Less than 0.05 percent.

Table A–14.—Secondary vocational education students—grade in school, by sex and program: 47 States and the District of Columbia, spring 1969 [Percent distribution]

Grade in school	Total		Agriculture		Distributive education		Health occupations		Home economics		Office occupations		Technical education		Trades and industry	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total (N=21,791)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
9th grade	9.2	10.5	28.7	33.3	.4	.4	1.3	1.8	17.6	31.7	8.5	2.5	1.7	1.5	2.7	.5
10th grade	19.9	12.5	30.5	25.9	2.6	2.8	7.5	7.9	6.5	21.0	18.6	10.7	24.4	12.4	20.3	15.1
11th grade	33.7	25.7	25.6	18.5	27.4	29.3	28.8	26.3	18.5	19.3	33.8	25.5	38.4	40.1	40.9	40.6
12th grade	37.3	51.2	15.2	22.2	69.5	67.5	62.5	64.0	57.4	28.0	39.1	61.3	35.4	46.0	36.2	43.8

Table A–15.—Secondary vocational education students—current grade and year in program, by program: 47 States and the District of Columbia, spring 1969 [Percent distribution]

Current grade and year in program	Total		Agriculture		Distributive education		Health occupations	
	Percent by grade	Percent within grade	Percent by grade	Percent within grade	Percent by grade	Percent within grade	Percent by grade	Percent within grade
Total (N=21,342)	100.0		100.0		100.0		100.0	
9th Grade	9.2	100.0	27.7	100.0	.4	100.0	1.6	100.0
10th Grade	16.3	100.0	30.8	100.0	2.7	100.0	7.8	100.0
First year	10.0	61.8	8.2	26.7	2.3	84.7	7.8	100.0
Second year	6.2	38.2	22.6	73.3	.4	15.3	----	----
11th Grade	30.0	100.0	26.0	100.0	28.4	100.0	26.5	100.0
First year	18.1	60.2	4.6	17.6	23.5	82.7	23.2	87.7
Second year	6.2	20.7	3.0	11.6	4.2	14.9	3.2	12.0
Third year	5.7	19.0	18.4	70.9	.7	2.4	.1	.2
12th Grade	44.6	100.0	15.4	100.0	68.4	100.0	64.0	100.0
First year	24.1	54.1	3.9	25.4	43.9	64.2	57.1	89.1
Second year	10.7	23.9	11.6	10.0	21.4	31.4	6.2	9.8
Third year	3.7	8.3	2.4	15.9	2.1	3.1	.1	.1
Fourth year	6.1	13.7	7.5	48.6	.9	1.3	.6	1.0

Current grade and year in program	Home economics		Office occupations		Technical education		Trades and industry	
	Percent by grade	Percent within grade	Percent by grade	Percent within grade	Percent by grade	Percent within grade	Percent by grade	Percent within grade
Total	100.0		100.0		100.0		100.0	
9th Grade	30.2	100.0	3.2	100.0	1.6	100.0	1.8	100.0
10th Grade	21.2	100.0	11.8	100.0	23.5	100.0	19.4	100.0
First year	8.9	42.0	6.8	58.0	23.3	99.2	16.7	85.9
Second year	12.3	58.0	4.9	42.0	.2	.8	2.7	14.1
11th Grade	19.2	100.0	26.8	100.0	38.5	100.0	41.2	100.0
First year	6.2	32.2	10.8	40.3	30.9	80.1	30.0	72.7
Second year	6.1	31.6	7.4	27.7	7.4	19.3	9.7	23.6
Third year	7.0	36.2	8.6	32.0	.2	.6	1.5	3.6
12th Grade	29.4	100.0	58.2	100.0	36.3	100.0	37.6	100.0
First year	11.0	37.5	28.8	49.4	15.1	41.5	16.9	45.0
Second year	3.0	10.0	10.0	17.2	14.4	39.8	13.3	35.3
Third year	3.4	11.5	6.0	10.2	5.7	15.7	5.0	13.3
Fourth year	12.0	40.9	13.5	23.1	1.1	3.1	2.4	6.4

Table A–16.—Secondary vocational education students—year in program, by program: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Year in program	Total	Agri-culture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
All years (N=21,342)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
First year	61.4	44.4	70.2	90.0	56.3	49.7	70.9	65.3
Second year	23.1	27.2	26.1	9.4	21.3	22.4	22.0	25.7
Third year	9.4	20.9	2.8	.1	10.3	14.5	6.0	6.5
Fourth year	6.1	7.5	.9	.6	12.0	13.5	1.1	2.4

Table A–17.—Secondary vocational education students—sex and marital status, by program: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Sex and marital status	Total	Agriculture	Distributive education	Health	Home economics	Office occupations	Technical education	Trades and industry
Total (N=21,983)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	96.0	99.1	96.7	80.1	98.5	96.8	99.2	97.2
Married	3.4	.6	3.0	16.8	1.4	2.9	.7	2.5
Widowed	.2	.2	(1)	.9	.1	.2	.1	.1
Divorced	.4	.1	.3	2.3	.1	.2	.1	.2
Male	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	98.2	99.1	97.2	96.6	98.1	97.6	99.2	97.7
Married	1.5	.6	2.4	3.4	.9	1.5	.7	2.0
Widowed	.1	.2	.1	----------	.9	.5	.1	.2
Divorced	.2	.1	.3	----------	----------	.5	.1	.2
Female	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never married	93.9	95.5	96.2	79.3	98.5	96.6	99.2	93.9
Married	5.3	----------	3.5	17.4	1.4	3.1	.8	5.8
Widowed	.2	----------	(1)	.9	.1	.1	----------	----------
Divorced	.6	4.5	.2	2.9	.1	.2	----------	.3

[1] Less than 0.05 percent.

Table A–18.—Vocational education students (all levels of instruction)—family income, by type and size of household: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Type and size of household	Percent distribution	Family income					With mother as head of household as percent of students
		Total	Under $3,000	$3,000–$5,999	$6,000–$9,999	$10,000 and over	
All students (N-27,980)		100.0	9.7	20.7	35.0	34.6	*7.4*
Living with parents or guardian	100.0	100.0	6.9	18.8	35.1	39.1	*9.6*
2 in family	2.1	100.0	18.6	26.6	34.7	20.1	*43.6*
3 in family	12.9	100.0	8.2	20.6	34.0	37.2	*14.6*
4 in family	22.4	100.0	4.9	15.8	35.4	43.9	*8.2*
5 in family	22.2	100.0	4.5	16.0	36.2	43.3	*7.0*
6 in family	15.1	100.0	5.0	16.5	36.2	42.3	*6.7*
7 in family	10.0	100.0	7.3	19.7	36.2	36.8	*6.7*
8 or more in family	14.4	100.0	11.5	26.6	32.8	29.1	*8.2*
Head of own household	100.0	100.0	19.2	26.4	33.2	21.2	*4.4*
Self	15.1	100.0	42.3	28.4	22.0	7.3	*2.6*
2 in family	23.8	100.0	17.5	32.5	32.1	17.9	*4.5*
3 in family	20.0	100.0	17.6	28.8	36.1	17.5	*5.5*
4 in family	18.8	100.0	11.9	19.3	38.3	30.4	*3.7*
5 in family	11.6	100.0	12.0	20.0	36.0	32.0	*4.3*
6 in family	5.5	100.0	12.3	21.3	39.4	27.1	*6.1*
7 in family	2.4	100.0	16.5	30.6	25.6	27.3	*4.7*
8 or more in family	2.8	100.0	16.3	26.2	29.8	27.7	*7.8*
Other arrangements	100.0	100.0	9.5	21.3	36.6	32.5	*1.0*
Self	2.4	100.0	55.4	18.5	16.3	9.8	*4.2*
2 in family	21.5	100.0	14.3	30.6	35.2	20.0	*4.8*
3 in family	16.8	100.0	9.4	26.4	36.0	28.2	*1.4*
4 in family	23.8	100.0	6.7	16.1	38.0	39.3	*.5*
5 in family	16.8	100.0	4.0	12.9	36.4	46.7	*1.1*
6 or more in family	18.8	100.0	6.9	20.8	40.0	32.2	*1.4*

Table A–19.—Secondary vocational education students—family income, by location of household: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Location of household	Family income					With mother as head of household, as percent of all students
	Total	Under $3,000	$3,000–$5,999	$6,000–$9,999	$10,000 and over	
Total (N=10,328)	100.0	8.1	21.2	35.7	35.0	*12.0*
Large city	100.0	6.8	21.6	37.1	34.4	*17.4*
Suburb	100.0	3.5	9.9	30.5	56.1	*8.6*
Small city	100.0	6.9	19.6	37.6	35.9	*13.4*
Rural area	100.0	12.1	27.5	34.9	25.6	*8.6*

Table A-20.—Secondary vocational education students—ethnic group and sex, by program: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Ethnic group, and sex	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Total....(N=21,871)..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
American Indian....	2.6	2.9	2.7	1.9	2.2	2.6	1.6	2.8
Negro.....	13.8	13.8	9.2	23.0	13.1	7.1	10.2	21.7
Oriental.....	.5	.6	.6	.2	.4	1.2	.5	.1
Spanish-surnamed Americans.....	3.7	1.7	4.1	6.6	4.8	4.7	1.4	2.9
All other groups....	79.5	81.1	83.3	68.3	79.5	84.4	86.3	72.4
Male.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
American Indian....	2.6	2.9	2.7	2.3	----------	3.5	1.6	2.7
Negro.....	13.5	13.7	8.7	15.9	10.6	9.2	10.1	18.3
Oriental.....	.4	.6	.3	----------	1.0	1.2	.5	.2
Spanish-surnamed Americans.....	2.6	1.6	3.8	6.8	5.8	3.0	1.5	3.2
All other groups....	80.9	81.2	84.5	75.0	82.7	83.0	86.3	75.7
Female.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
American Indian....	2.3	4.8	2.6	1.9	2.2	2.5	1.5	3.7
Negro.....	14.1	19.0	9.8	23.4	13.2	6.9	10.9	42.1
Oriental.....	.6	----------	.9	.2	.4	1.2	----------	----------
Spanish-surnamed Americans.....	4.8	4.8	4.4	6.6	4.7	4.9	.7	1.4
All other groups....	78.1	71.4	82.3	68.0	79.4	84.6	86.9	52.7

Table A-21.—Vocational education students (secondary and postsecondary)—hours worked by employed students, by sex and age group: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Sex and age group	Worked		
	1–14 hours	15–34 hours	35 hours or more
Total (N=18,243)	18.2	56.0	25.8
15 years and under	50.5	28.6	20.9
16–17 years	29.9	55.2	14.9
18–19 years	16.7	63.3	20.0
20–29 years	13.9	50.3	35.9
30–39 years	9.0	28.1	62.9
40 years and over	10.6	30.6	58.8
Male	14.8	52.6	32.5
15 years and under	41.4	33.3	25.3
16–17 years	26.7	56.2	17.1
18–19 years	13.1	60.2	26.7
20–29 years	10.6	46.8	42.6
30–39 years	2.4	17.8	79.8
40 years and over	4.6	13.7	81.7
Female	23.8	61.5	14.7
15 years and under	67.3	19.8	12.9
16–17 years	37.4	53.1	9.6
18–19 years	20.9	67.0	12.1
20–29 years	22.2	59.2	18.6
30–39 years	20.6	46.0	33.3
40 years and over	14.6	41.7	43.7

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Table A–22.—Vocational education students (secondary and postsecondary)—work-study relationship of employed students, by program: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Work-study relationship	Total	Agri-culture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Employed students (N=17,873)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Jobs related to program	32.7	64.4	24.5	46.5	31.7	29.7	23.9	30.4
Cooperative-education	23.7	6.3	60.5	14.3	5.7	18.0	3.0	11.0
Jobs unrelated to program	43.6	29.3	15.0	39.1	62.6	52.3	73.1	58.6

Table A–23.—Secondary vocational education students—number of courses taken by students, by program: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Number of courses	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Total (N=22,308)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1 course	11.8	11.5	4.3	26.7	7.7	4.8	16.1	20.0
2 courses	1.9	1.2	2.9	1.8	.5	2.5	2.7	1.8
3 courses	10.2	1.8	18.8	16.5	1.4	11.5	6.6	12.6
4 courses	22.2	10.9	32.3	28.6	5.7	13.7	25.7	36.3
5 courses or more	53.9	74.6	41.6	26.4	84.6	67.5	48.9	29.3
Average (number)	4.4	4.7	4.2	3.4	5.2	4.8	4.1	3.6

Table A-24.—Vocational education students (secondary and postsecondary)—student plans after completing program, by program and year of completion: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Year of completion and student plans	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
All years								
Total students	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Seek employment	51.8	37.8	46.1	77.3	32.4	60.4	47.9	53.7
In field of training	(44.9)	(29.4)	(37.1)	(74.4)	(18.4)	(54.8)	(45.0)	(47.4)
In another field	(6.9)	(8.4)	(9.0)	(2.9)	(14.0)	(5.6)	(2.8)	(6.3)
Continue education	(34.6)	(41.6)	(38.4)	18.1	54.1	31.8	33.9	28.9
Not work	(8.3)	(8.7)	(7.1)	(4.4)	(21.2)	(7.8)	(7.8)	(4.5)
Get part-time job	(26.3)	(32.8)	(31.3)	(13.7)	(32.9)	(24.0)	(26.1)	(24.4)
Join Armed Forces	7.4	14.7	7.9	1.1	1.7	2.3	12.8	12.9
Other	6.2	6.0	7.6	3.5	11.8	5.5	5.5	4.5
1969								
Total students	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Seek employment	49.7	36.8	40.8	75.3	27.7	58.3	45.8	52.8
In field of training	(41.3)	(26.8)	(29.1)	(71.6)	(13.2)	(52.7)	(41.1)	(44.5)
In another field	(8.4)	(10.0)	(11.7)	(3.7)	(14.4)	(5.6)	(4.7)	(8.3)
Continue education	37.6	41.5	42.0	19.7	59.0	35.0	37.5	30.3
Not work	(10.2)	(8.1)	(8.1)	(5.5)	(25.3)	(9.7)	(9.8)	(4.8)
Get part-time job	(27.4)	(33.4)	(33.8)	(14.2)	(33.7)	(25.3)	(27.7)	(25.5)
Join Armed Forces	6.2	16.9	8.9	.6	1.5	1.7	11.8	12.4
Other	6.4	4.8	8.2	4.4	11.8	5.0	4.9	4.5
1970								
Total students	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Seek employment	57.1	45.1	53.9	80.6	45.9	64.9	50.3	51.6
In field of training	(52.6)	(38.7)	(48.8)	(78.9)	(35.7)	(59.6)	(48.7)	(46.9)
In another field	(4.5)	(6.4)	(5.1)	(1.7)	(10.1)	(5.3)	(1.6)	(4.7)
Continue education	29.6	36.1	33.2	15.4	39.7	26.5	31.1	30.8
Not work	(5.8)	(7.6)	(5.5)	(2.9)	(13.3)	(5.1)	(6.8)	(4.8)
Get part-time job	(23.8)	(28.6)	(27.7)	(12.4)	(26.4)	(21.4)	(24.3)	(26.0)
Join Armed Forces	7.8	13.5	6.6	1.6	2.0	2.5	13.0	12.9
Other	5.5	5.3	6.2	2.4	12.4	6.1	5.6	4.6
1971								
Total students	100.0	100.0	100.0	(1)	100.0	100.0	100.0	100.0
Seek employment	47.9	30.9	57.9	----------	37.3	56.7	45.9	61.2
In field of training	(41.0)	(23.0)	(53.9)	----------	(19.7)	(51.0)	(44.1)	(55.8)
In another field	(6.9)	(7.9)	(3.9)	----------	(17.7)	(5.7)	(1.8)	(5.4)
Continue education	35.9	50.0	29.5	----------	50.2	31.8	33.4	21.3
Not work	(7.3)	(11.5)	(5.5)	----------	(12.9)	(5.9)	(6.4)	(3.0)
Get part-time job	(28.5)	(38.5)	(24.0)	----------	(37.3)	(25.9)	(27.0)	(18.3)
Join Armed Forces	10.4	13.4	4.7	----------	2.2	5.9	14.2	14.3
Other	5.8	5.6	7.9	----------	10.2	5.6	6.5	3.2

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Table A–24.—Vocational education students (secondary and postsecondary)—student plans after completing program, by program and year of completion: 47 States and the District of Columbia, spring 1969—Continued

[Percent distribution]

Year of completion and student plans	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
1972								
Total students	100.0	100.0	(1)	(1)	100.0	(1)	(1)	(1)
Seek employment	43.0	37.4			30.0			
In field of training	(33.4)	(27.0)			(13.6)			
In another field	(9.6)	(10.3)			(16.5)			
Continue education	40.7	44.9			54.7			
Not work	(9.2)	(8.9)			(18.1)			
Get part-time job	31.5	(36.0)			(36.6)			
Join Armed Forces	(9.6)	14.7			1.2			
Other	6.7	3.0			14.6			
1973								
Total students	100.0	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Seek employment	37.6							
In field of training	(32.4)							
In another field	(5.2)							
Continue education	22.9							
Not work	(6.2)							
Get part-time job	(16.7)							
Join Armed Forces	12.9							
Other	26.7							

[1] Insufficient number of responses for useful statistical conclusions.

Table A–25.—Secondary vocational education students—educational level of head of household, by program of student: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Educational level of head of household	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trade and industry
Total (N=22,308)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8th grade or less	27.5	36.3	23.5	26.5	29.8	24.8	21.1	30.2
Some high school	21.4	19.5	21.5	21.1	19.3	22.1	20.5	24.7
Completed high school	30.5	28.8	31.9	31.1	27.9	30.8	38.1	29.2
Some college	7.5	5.3	8.7	10.1	7.4	8.6	7.8	5.4
Completed 2- or 4-year college	9.0	6.3	10.9	8.4	11.3	9.2	9.6	6.0
Other	4.1	3.7	3.5	2.9	4.3	4.5	2.8	4.5

Table A-26.—Secondary vocational education students—occupation of head of household, by program of student: 47 States and the District of Columbia, spring 1969

[Percent distribution]

Occupation of head of household	Total	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
Total (N=22,308)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional/technical	15.0	10.6	16.0	15.0	18.6	15.9	15.7	11.2
Farmer, farm manager	.9	1.7	1.2	.2	.3	2.1	.1	.1
Manager, official	2.0	2.0	1.8	2.1	2.1	2.8	1.7	1.1
Clerical	5.6	5.0	6.8	4.5	5.5	5.5	5.1	5.6
Sales	2.2	1.1	3.2	2.2	3.2	2.3	2.3	1.0
Craftsman, foreman	47.5	47.2	46.1	46.5	47.3	46.0	52.3	50.3
Operative	12.6	14.8	11.3	12.9	10.9	10.8	12.5	15.6
Private household	.3	.6	.2	.7	.3	.2	----	.4
Service, except private household	11.1	11.8	11.4	13.4	9.2	10.4	9.3	11.9
Farm laborer	.1	.3	----	----	----	.2	----	----
Laborer except farm or mine	2.7	4.9	1.9	2.5	2.4	3.8	.9	2.7

Appendix B

Technical Note

The purpose of this survey was to obtain national estimates of the characteristics of the teachers and enrollees in the vocational education programs in the United States in the spring of 1969.

The population of inquiry consisted of all the full- and part-time teachers of vocational education courses at the secondary, postsecondary, and adult levels and the students enrolled in their courses.

The sample design provided for a two-stage stratified cluster sample. In the first stage, the population of teachers was stratified by the three levels (secondary, postsecondary, and adult) and by the seven vocational education programs (agriculture, distributive education, health occupations, home economics, office occupations, technical education, and trades and industry)—21 strata in all. A simple random sample of teachers was then selected from each stratum.

In the second stage, one of the courses of the teachers selected in the sample in the first stage, which was in session during the survey week, April 28 to May 2, 1969, was selected in a random manner and all of the students in that course were included in the sample.

The size of the teacher sample in each of the 21 strata was based on the administrative requirement that the number of students to be included in the second stage of the sample should be about 100,000 and that the estimate of the percentage of teachers having a major characteristic of interest would have an absolute error of not more than 10 percent at the 95-percent confidence limit.

Sampling ratios. It was possible to obtain a count of the total number of teachers in each of the 21 strata for the year 1967 from the annual report submitted by the States.[1] With this information, the sample sizes needed to meet the above requirements were determined and the sampling ratio for each stratum was computed. To cover potential substitutions or alternates for nonresponding teachers, the sampling ratios were doubled. The doubled sampling ratios, by level and by program, are shown in the following table:

Program	*Level*		
	Secondary	*Post-secondary*	*Adult*
Agriculture	22	2	13
Distributive education	7	1	11
Health occupations	1	8	3
Home economics	42	2	30
Office occupations	44	10	17
Technical education	2	14	9
Trades and industry	30	18	51

Sampling frame. The development of the sampling frames to be used in the selection of the teachers and the actual selection of the sample of teachers were done by the coordinators in the various States. They were instructed to make a listing of all the vocational education teachers in their State for each of the 21 strata. For the purpose of the survey, all full- and part-time teachers were to be listed in their appropriate strata in whatever order that was compatible with the recordkeeping system in their State. For example, if they had a separate listing of part-time teachers, it could follow the list of full-time teachers in that stratum. In addition, the coordinators were to supply a total count, by strata, of all the vocational educational teachers in their State.

The teacher sample. In order to select the teachers in each stratum, the coordinators were provided with sampling ratios and a procedure, based on the total number of teachers in the stratum, of determining a random starting point. After this random start, the teachers were selected in a systematic manner based on the sampling ratio that was appropriate for that stratum,

Selection of teachers for inclusion in the sample required two steps: first a *panel* of teachers was selected by applying the doubled ratios in each cell. For example, a teacher who taught an agriculture course at the secondary level had one chance in 22 of being selected for the panel, while the teacher who taught an agriculture course at the postsecondary level had one chance in two of being selected. The second step was to select alternate teachers from the panel starting with the first name on the list. This procedure provided the *sample* in accord-

[1] *Vocational and Technical Education Annual Report,* U.S. Office of Education, 1967.

ance with the original sampling ratios. The remaining teachers on the panel were held in reserve to substitute as needed if the immediately preceding teacher on the list did not respond to the survey.

Sample control numbers. Each teacher in the panel was assigned a sample control number as a means of maintaining a central receipt control system. This eight-digit number identified the State, program, level, and serial number of each sample teacher (or alternate). (See appendix D for the various coding systems used.) The control numbers were also used to identify students in the sample with their respective teachers.

In three States—California, Maryland, and New Jersey—the method used to select the teachers required a somewhat different selection procedure because of problems in the availability of the data in the form necessary to carry out the technique used in the other States. However, the probability of a teacher being selected in the sample from these three States was the same as that for the teachers in the other States.

The student sample. The method used to select the classes to be included in the second stage was based on the number of classes that the sample teacher taught during the sample week and the initial of the teacher's surname. If the teacher taught only one class, then that class was in the sample and all the students therein were included in the sample. If two or more classes were taught, then, depending on the teacher's initial, the class to be included was based on a random selection table where each class had the same probability of being selected. Again, all students in the selected class were included in the sample.

Method of collection. An informational letter was sent to the principal of each school in which sample teachers were located, and kits were sent to each teacher selected for inclusion in the sample. Teacher kits contained a letter, instructions, OE course codes, one teacher questionnaire, 30 student questionnaires, and a return envelope. (See appendix C for sample copies of these inserts.) Teachers were asked to complete the teacher questionnaire and to have each member of the class selected for inclusion in the sample complete a student questionnaire.

Processing returns. Processing teacher and student questionnaires involved several steps: preliminary review, logging, editing, coding, and tabulating. Each step required carefully prepared specifications to insure close quality control. Responses differing from specifications were reviewed to determine if any of the information on the form could be salvaged. Teacher and student forms were retained as a package until all processing steps were completed.

Preliminary review. As each teacher-student package arrived, the forms were reviewed to determine if they satisfied certain specifications. If they conformed, the package went on to be logged. The following tabulation lists the specifications, the method of checking, and the disposition of the forms if they did not conform:

Requirement	Method of checking	Disposition, if not conforming—	
		Before June 15	After June 15
Teacher and student forms should include certain items; other items optional.	All items should be completed except optional items.[2]	If four or more nonoptional items incomplete, forms returned to teacher.	Forms accepted as is.
Only one class should be surveyed.	Sample class and number of student returns should conform with information on teacher form as being class surveyed.	Forms returned to teacher for selection of sample class, if unable to determine in Office of Education.	Acceptance determined by Office of Education on individual basis.
Only one teacher should report for each class.	Only one teacher form should appear in each teacher-student package.	Extra teacher form deleted.	Extra teacher form deleted.

[2] Optional items generally concerned those items identified as personal, such as family size, income, and education on the student forms and school information on the teacher forms.

Requirement	Method of checking	Disposition, if not conforming— Before June 15	After June 15
Level of class should be same as level for which teacher was selected.	Third digit of sample control number (SCN) should be same as program of class sampled.	Forms returned to teacher with request to sample correct class.	Third digit of SCN changed to conform with level of class, if that cell was not already filled.
Program of class should be same as program for which teacher was selected.	4th and 5th digits of SCN should be same as program of class sampled.	Forms returned to teacher with request to sample correct class.	4th and 5th digits of SCN changed to conform with program of class, if that cell was not already filled.
Teacher form should be accompanied by completed student forms.	Visual.	Teacher requested to select sample class and return completed student forms.	Teacher form deleted.

Logging. After the preliminary review, certain information from the forms was logged on the master control list. Log sheets were prepared for each State participating in the survey by listing the names of teachers selected for the sample and their sample control numbers in consecutive order by level and program. Log sheet column headings were as follows:

Receipt—checkmark to show receipt.

Number of students in sample class—each student had the same sample control number as his teacher, plus a two-digit number added by the logging clerk.

Number of classes taught by the sample teacher—as determined from the teacher form.

Special needs—checkmark to indicate inclusion of a "special needs" note from the teacher.

Editing and coding. The process of editing and coding teacher and student forms was let on contract with a private firm. Detailed requirements on the specifications of editing and coding were provided by the National Center for Educational Statistics. Editing required reviewing all forms for consistency or logical sequence within each form itself and among the forms making up each teacher-student package, checking the forms for no-response or multiple-response items, and changing word responses to numerical responses.

Coding required the use of two different coding systems:[3] the vocational education program and course codes and the occupational codes. Program codes had to be verified on both the teacher forms and the student forms. Course codes had to be verified on the teacher forms and inserted on the student forms. Occupational codes were inserted on the student forms only.

Tabulating. Information on the edited and coded questionnaire forms was tabulated in accordance with table specifications established by the National Center for Educational Statistics. The process of machine tabulation was let on contract with a private firm.

Coverage. Forty-seven States[4] and the District of Columbia participated in the national sample survey of vocational education teachers and students. These States reported a universe total of 118,601 full-time and part-time teachers at all levels and programs. More than half of the teachers were reported as assigned to the secondary level, nearly a fifth to the postsecondary level, and more than a fourth to the adult level. The sample ratios were based on the 1967 *Vocational and Technical Education Annual Report*. These ratios were then applied to the total number of teachers in 1969 to get the required sample, which consisted of nearly 4,500 teachers, or 3.8 percent of the total number. About 40 percent of the sample represented the secondary level, 35 percent the postsecondary level, and nearly 25 percent the adult level. (See appendix table B–1 for the numbers of teachers, by level and program.)

[3] See appendix D for the codes and their reference sources.

[4] Illinois, Indiana, and New York were not included in the survey because of technical difficulties.

Table B-1.—Vocational education teachers—total in sampling frame, sample size, and usable returns, by level and program: 47 States and the District of Columbia, spring 1969

Level and program	Total [1] in sampling frame	Sample size		Usable returns	
		Number	Percent of total	Number	Percent of sample
Total	118,601	4,472	3.8	2,574	57.6
Secondary	63,968	1,823	2.8	1,299	71.3
Agriculture	9,167	239	2.6	186	77.8
Distributive education	3,667	268	7.3	229	85.4
Health occupations	733	341	46.5	143	41.9
Home economics	17,998	242	1.3	186	76.9
Office occupations	19,374	246	1.3	197	80.1
Technical education	613	138	22.5	96	69.6
Trades and industry	12,416	349	2.8	257	73.6
Other	------	----	----	5	----
Postsecondary	22,037	1,604	7.3	914	57.0
Agriculture	539	129	23.9	63	48.8
Distributive education	943	386	40.9	162	42.0
Health occupations	3,622	229	6.3	159	69.4
Home economics	423	143	33.8	59	41.3
Office occupations	4,206	266	6.3	177	66.5
Technical education	4,799	196	4.1	135	68.9
Trades and industry	7,505	255	3.4	148	58.0
Other	------	----	----	11	----
Adult	32,596	1,045	3.2	361	34.5
Agriculture	3,290	136	4.1	25	17.6
Distributive education	2,139	197	9.2	42	21.3
Health occupations	1,035	151	14.6	95	62.0
Home economics	5,901	140	2.4	44	31.4
Office occupations	4,942	167	3.4	56	33.5
Technical education	2,036	107	5.3	27	35.2
Trades and industry	13,253	147	1.1	70	47.6
Other	------	---	---	2	----

[1] Excludes Illinois, Indiana, and New York. Number of teachers by level and program were furnished by States and represent their listings of teachers at the time of the survey.

Response. Of the 4,472 teachers selected for inclusion in the sample, 2,574 or 57.6 percent returned completed teacher and student packages that were acceptable for the survey. Among the three levels, the rate of return for secondary teachers (71.3 percent) was twice that of adult teachers (34.5 percent); for postsecondary teachers, it was about midway at 57 percent. The rate of return among the seven programs within the levels showed even wider variation, ranging from nearly 18 percent for adult agriculture to about 85 percent for secondary distributive education. (See appendix table B–1 for numbers and percentages of sample size and usable returns.)

Nonresponse. Nearly 1,900 (42 percent) of he teacher-student packages sent out as part of the sample were not used. The great majority (70 percent) of the unused forms were "lost"—not returned. Time did not permit asking alternates to substitute for these nonrespondents because the cutoff date of the survey coincided with the end of the school year in most States and because the individual nonrespondents were not known until after the cutoff date.

Of the remaining 30 percent of the unused forms (576 of the total), more than half were returned either by the Post Office as undeliverable or by the teacher with no reason for incompletion. If known before the June 15 cutoff date, substitutions were made as soon as the individual teacher was identified as a nonrespondent. Most of the remainder (46 percent) of the unused forms came primarily from teachers who said their classes were no longer in session, a reflection of the late start of the survey. It can reasonably be assumed that many of the forms undeliverable by the Post Office were also those belonging to teachers whose classes were no longer in session. (See appendix table B–2 for more details on nonrespondents.)

Reliability of the estimates. Since the estimates are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and procedures. As in any survey work, the results are subject to errors of response and of reporting as well as being subject to sampling variability.

The standard error is primarily a measure of sampling variability; that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. The standard error does not measure as such any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census figure by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error.

Table B–2.—Unused teacher forms and substitutions made for nonresponse, by level: 47 States and the District of Columbia, spring 1969

Level	Total unused teacher forms	Unknown "lost"		Substitutions for nonresponse [1]						
		Number	Percent of total	Total	Returned as undeliverable by Post Office	Returned by teacher, no reason given	Reasons given by teachers for not completing forms: Total	Class not in session	Not teaching vocational education program	Not teaching at this level
Total	1,898	1,322	69.5	576	248	65	263	165	69	29
Secondary	524	383	73.1	141	58	36	47	30	14	3
Postsecondary	690	532	77.1	158	58	14	86	41	36	9
Adult	684	407	59.5	277	132	15	130	94	19	17

[1]Alternates were substituted for most of these groups.

Table B–3 shows the standard errors of estimated percentages of secondary vocational education teachers for the different programs.

Illustration: Appendix table A-1 shows that 89.9 percent of the secondary vocational education teachers in trades and industry were male. The standard error for this percentage as shown in table B–3 is approximately 1.85 percent. Consequently, chances are 68 out of 100 that the estimated 89.9 percent would be within 1.85 percent of a complete census figure, and chances are 95 out of 100 that the estimate would be within 3.70 percent of a census figure.

Table B–3.—Standard errors of estimated percentages of secondary vocational education teachers: 47 States and the District of Columbia, spring 1969.

(68 chances out of 100)

Estimated percentage	All combined	Agriculture	Distributive education	Health occupations	Home economics	Office occupations	Technical education	Trades and industry
2 or 98	0.37	1.01	0.89	1.02	1.01	0.99	1.35	0.86
5 or 95	.59	1.58	1.39	1.60	1.59	1.54	2.10	1.34
10 or 90	.82	2.17	1.92	2.17	2.19	2.12	2.89	1.85
25 or 75	1.19	3.14	2.77	3.19	3.16	3.07	4.17	2.67
50	1.37	3.63	3.20	3.68	3.65	3.54	4.81	3.09

Appendix C

Sample Forms and Instructions

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
BUREAU OF ADULT, VOCATIONAL, AND LIBRARY PROGRAMS

PROGRAM MEMORANDUM -- AVL (V) 69-31 DATE: December 27, 1968

SENT BY: Dr. Leon P. Minear
Director, Division of Vocational and Technical Education

SENT TO: Executive Officer, State Board for Vocational Education
State Directors of Vocational Education
Regional Directors, AVLP
VTE Program Officers
Headquarters Staff

SUBJECT: Proposed Survey of Characteristics of Vocational Education Students and Teachers

The National Center for Educational Statistics, with the cooperation of DVTE, is planning a survey of vocational education students and teachers. The purpose of the survey is to obtain vocational education data needed to fill gaps in information pointed out so emphatically in the 1968 report of the Advisory Council on Vocational Education. The purpose of this bulletin is to describe the plan proposed, to ask for your comments, and to request your cooperation in conducting the survey when it is put into final form.

The plan we have developed, which has been partially tested in three States, calls for a sample of teachers to be picked in each State, a form to be filled out by the teacher, and another form to be filled out by the students in one of their classes. In the pretest it took the teacher about 30 minutes to fill out the teacher form and about 15 minutes to administer the student form in the class. Thus, from a sample of about 5,000 of the 125,000 teachers and from about 100,000 of the 7,000,000 students we can obtain information for the seven vocational fields and the three levels of vocational education (secondary, postsecondary, and adult). This procedure will involve much less burden on the States and on the teachers than any other method we could plan and will provide information that will be useful to you and to us. If we were to estimate totals (in less detail) for each State, we would need a larger sample, about 20,000 teachers and 400,000 students.

The present draft of the three questionnaires is attached. The procedure for picking the sample will involve the cooperation of the State Offices. The sample will be picked by applying a sampling rule to State-wide lists of teachers by field and level. If you do not have such lists, a sample of schools that offer vocational programs will be picked and then we will sample the faculty within these schools.

After the sample is picked the forms and instructions must be distributed to the teachers selected, and procedures followed to make sure they complete the forms and administer the tests. Since this is a sample survey and each

person represents a group, it is important that the response be controlled to make sure the person selected answers. The exact details of the mailing and control will be worked out State-by-State. If you prefer, the entire procedure for the teachers in your State can be handled in the State office. However, if you prefer, after the sample is selected, the procedure can be taken over by Washington. In any event, all editing, coding, and tabulating will be done by the National Center for Educational Statistics in Washington.

We would appreciate, at this stage, any comment on either the procedure or the content of the form. Our present thinking is to do a national sample this spring because it would provide useful information on the national program. Our resources are too limited to cover all States on a State-by-State basis and the smaller national sample would provide an opportunity to thoroughly test the procedure before we try for State-by-State data.

It would be very helpful if you would designate a member of your staff to cooperate with us on this survey and to coordinate this activity within your State. We will keep him in touch with developments so that your State's needs will get full consideration.

The information collected will be used for statistical purposes only and will not be part of any individual record. This is important to safeguard the rights of individuals. Any comments or suggestions you care to make on these forms will be appreciated.

Your cooperation is sincerely appreciated. Please send the name of the responsible staff member and your comments as soon as possible to Mr. Morris Ullman, Chief, Adult and Vocational Studies Branch, National Center for Educational Statistics, Office of Education, phone 962-6791. We would appreciate hearing from you no later than January 8, 1969.

Attachment

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

NATIONAL CENTER FOR
EDUCATIONAL STATISTICS

REFER TO:
DSPA-AVSB

March 20, 1969

(SAMPLE LETTER TO STATE COORDINATORS)

Attached is the memorandum covering the general plan for the forthcoming Survey of Characteristics of Vocational Education Teachers and Students, outlined in Program Memorandum AVL (V) 69-31, dated December 27, 1968. Appendix 1, Selecting the Sample of Teachers, is also enclosed.

The forms for this survey have been revised, taking suggestions from you and others into account, and are now under review by the U.S. Bureau of the Budget from whom prior approval must be obtained before a Federal agency can conduct a survey. In view of the time schedule, the Center has received permission from the Bureau of the Budget to send you the enclosed memorandum describing the general outline of the survey and Appendix 1 describing the method of choosing the teacher sample. Appendixes and copies of the content of the forms as approved will be sent to you as soon as approval for the survey is granted.

In order for the survey to enter the data collection phase as rapidly as possible, we would appreciate your arranging for the sample selection and sending the requested information on the included form as soon as possible. You will note that we have kept to the categories which are needed for preparing the annual vocational education report on teachers.

If there are any questions regarding the attached materials or the procedures, please write or call Mr. Morris B. Ullman, (202) 962-6791.

May I express my personal thanks for your cooperation in assisting us with this study.

Sincerely yours,

Dorothy M. Gilford
Assistant Commissioner for
Educational Statistics

Enclosures -

Survey of Characteristics of Vocational Education Teachers and Students

MEMORANDUM TO: State Coordinators

SUBJECT: Outline of procedures

We are pleased to learn of your designation as coordinator for your State to work with us on the Survey of Characteristics of Vocational Education Teachers and Students. We have reviewed your comments on the questionnaires and have sent the revised form to the U.S. Bureau of the Budget for official clearance, which is required before the survey can be made final. In the meantime, this memorandum should answer some of the questions raised and describe the techniques that we will be using. PLEASE KEEP THESE MATERIALS AVAILABLE FOR READY REFERENCE.

The first survey is designed to obtain national data only; therefore, the sample for any one State will not permit State estimates. The national sample will produce data for the three levels (secondary, postsecondary, and adult) and for the seven fields of vocational education.

All States and territories, except four, have already indicated cooperation and have named coordinators. We are sending instructions to all States so that everyone can be familiar with the process. The techniques used here will also apply when, in a later survey, we will conduct a State-by-State sample. It is also designed so that any State which might want to conduct such a survey itself can also follow this design.

The Timetable

Our tentative timetable for conducting this survey is as follows:

By March 28 - Selection of teachers to be included in the sample should be completed. Lists should be sent to the National Center for Educational Statistics (NCES).

By April 11 - Questionnaires and other materials will be mailed to those States which are going to do their own mailing; information copies will be mailed to coordinators in the States where the mailing will be handled by NCES.

By April 21 - Teacher and student questionnaires and related materials should be distributed to teachers; letters of explanation with information copies should be sent to their principals.

April 28 - May 2 - Survey week. The student form should be administered to one class by each sample teacher during this week.

By May 9 - All materials should be returned to NCES.

Choosing the Teacher Sample (See appendix 1.)

The sample is designed to provide a random selection. Each teacher should have a known chance of being chosen. The technique is described in appendix 1 of this memorandum. When the sample has been picked, the list of teachers selected and their school addresses should be sent to NCES.

Mailing the Kits

After the sample is selected, a kit will be sent to each teacher which will include the teacher form, student forms, appropriate instructions, and a return envelope. Please fill out the attached form letting us know whether you want the State or NCES to mail out these kits. When the State plans to do the mailing, the kits will be forwarded to the State Coordinators for transmittal. When the State prefers that NCES do the mailing, the kits will be mailed directly to the teachers, with information copies to principals and others as appropriate. Please indicate your preference on the attached form and return to NCES. (State Coordinators who prefer to do their own mailing will receive an appropriate number of information copies.)

Teacher Instructions

Teachers in the sample will be provided with instructions for selecting one of their classes and for administering the student forms to that class. The forms for that class will constitute the sample of students.

Administering and Controlling the Sample

Since this is a sample survey and each person in the sample represents a group, some method must be devised to insure that the selected teachers and students complete the forms and that these forms are returned to NCES. The exact procedure will vary according to the wishes of each State.

Because of the way the sample is designed, it will not be necessary to insist that every last student report. For example, if one or two students are absent, they need not be included in the survey. However, if absences are extensive or are likely to produce a bias (e.g., the absence of all the girls), administering the questionnaire should be delayed until a more appropriate time.

We appreciate your cooperation and are looking forward to working with you to complete this survey.

Appendix 1

Choosing the Teacher Sample

Because not all States maintain identical record systems, we have devised a method of sampling teachers that should cover most situations. Sampling should be done separately for each of the three levels (secondary, postsecondary, and adult) and the seven vocational fields, or 21 strata in all. The sampling ratios given below were determined from data reported by the States on previous Vocational Education reports. However, the results will not depend upon these ratios; the weighting for the sample will be based on the total numbers of teachers you report for this survey on the sample response.

We have decided to permit duplication where a teacher may appear on more than one list. If the sample teacher receives more than one set of materials, only one needs to be used. The listing of the program on the teacher's questionnaire will provide information needed to adjust the sample weights.

Making a List of Teachers

A list of all teachers in your State for each of the 21 strata as described above is needed. The groupings are the same as that reported annually for vocational education on OE-4047-1, number of teachers in vocational education programs and local vocational personnel, except that we are making certain combinations. For this purpose, all full-time and part-time teachers may be listed in their appropriate stratum in whatever order that is compatible with your recordkeeping system. For example, if you have a separate listing of part-time teachers, it may follow the list of full-time teachers in that stratum.

Important: In order to assign proper weights to the 21 strata, we need a total count (not the total list), by strata, of all teachers in your State. This is necessary for all States. Total count of teachers should be reported in column (a) of attachment 2.

Selecting the Teacher Sample

The sampling method provides for the selection of a panel of teachers from each stratum. Half of those selected will be in the sample; the other half will be held in reserve as alternates, if needed. Every name on each of the 21 lists should have a known chance of being selected for the panel. To insure this, the procedure for selecting the sample should be followed very carefully.

a. Sampling ratios. For this survey, the sampling ratios for the 21 strata are as follows:

	Secondary	Postsecondary	Adult
Agriculture	22	2	13
Distributive	7	1	11
Health	1	8	3
Home Economics	42	2	30
Office	44	10	17
Technical	2	14	9
Trades/Industry	30	18	51

This means that in the secondary agriculture group, for example, 1 out of every 22 teachers will be selected to make up the sampling panel. When the sampling ratio is 1, then all teachers on that list are on the panel. The ratios are designed to give a minimum number in each of the 21 categories that will produce a reliable sample. The figures are based on previous annual reports, but the actual weights which will be used in this survey will be based on the new reports received.

b. Starting number. In picking the sample, we should vary the starting point on each list. The starting number varies according to the total number of teachers in each of the 21 categories, as follows:

If the total number of teachers on the list falls between	Then start with
1 - 10	1 (first name on the list)
11 - 20	2 (second name)
21 - 30	3 etc.
31 - 40	4
41 - 50	5
51 - 60	6
61 - 70	7
71 - 80	8
81 - 90	9
91 - 100	10
over 100	Use last two digits and follow above scheme.

For example, if there are 143 teachers listed in the secondary agriculture group, the starting number would be the fifth name on the list. Since the sampling ratio for secondary agriculture is 22, every 22nd name on the list, starting with the 5th name, would be selected for inclusion in the sampling panel. In this example, the following teachers would be selected: 5, 27, 49, 71, 93, 115, and 137, seven in all. These seven teachers comprise the first stage and represent the sampling panel of teachers.

c. The sample. The second stage in selecting the sample of teachers is to take every other teacher from the panel starting with the first one on the list. Those thus selected will be the teachers to be surveyed. For example, from the seven teachers listed above, numbers 5, 49, 93, and 137 would make up the sample.

When the sampling ratio is 1, the starting number should be 1; that is, the first name on the list and each successive odd-numbered name make up the sample of teachers. The even-numbered teachers will be held in reserve to serve as alternates, if needed.

Important: The total number of teachers selected for the sampling panel should be reported to NCES in column (b) of attachment 2, and total number of alternates in column (c).

d. Assigning sample control numbers. As the sample is selected, a control number should be assigned to each teacher picked for the panel. The sample control numbers are needed so that we can tie in by mechanical means the information from student questionnaire forms to the information from the teacher questionnaire forms. The control number will be an 8-digit figure.

(1) The first two digits will be the State code.

(2) The third digit refers to the level, as follows:

1 - Secondary
2 - Postsecondary
3 - Adult

(3) The fourth and fifth digit refer to the field, using Handbook VI codes, as follows:

01 - Agriculture
04 - Distributive
07 - Health
09 - Home Economics
14 - Office
16 - Technical
17 - Trades and Industry

(4) The last three digits will be a serial number. Use zeros to make this a three-digit number; e.g., 001, 002, etc.

Important: The list of names of teachers and assigned sample control numbers, by level and field, should be sent to NCES. A sample format for presenting this information appears in attachment 3. Where mailing is to be done by NCES, please add names and addresses of principals of the schools where the sample teachers are located.

Please review the list of sample teachers to determine if there are any duplicates. If any name should appear twice anywhere on the entire list, then cross out one of the duplicate listings and substitute an alternate from the same stratum.

A copy of these lists should be retained by you since all identification of the sample unit (teacher and class) should refer to this control number. It must be included after the name on each item addressed to the teacher.

e. The alternates. Every effort should be made to get reports from the teachers selected in the sample, but unusual circumstances sometimes require a substitution. In the event of such a circumstance, alternate selections may be made, but only after you have made certain that those first selected cannot respond. Alternates, for the purposes of this sample, consist of the teachers on the panel who were not selected in the second stage; that is, in our example above, numbers 27, 71, and 115 would serve as alternates in that order. Number 27 would be selected first, etc. No other substitutions should be made except from this list.

State _____

Survey of Characteristics of Vocational Education Teachers and Students

Stratum	Total Number of Teachers 1/ (a)	Total Number of Teachers Selected for Sample (Exclude alternates) (b)	Total Number of Alternates (c)
Secondary			
Agriculture			
Distributive			
Health			
Home Economics			
Office			
Technical			
Trades and Industry			
Postsecondary			
Agriculture			
Distributive			
Health			
Home Economics			
Office			
Technical			
Trades and Industry			
Adult			
Agriculture			
Distributive			
Health			
Home Economics			
Office			
Technical			
Trades and Industry			

1/ This is necessary for all States.

Note: Original to be mailed to: Office of Education, Attn: NCES-SPA-AVSB, Room 1105, 400-MD, Washington, D. C. 20202. Copy to be kept by State Coordinators.

Appendix 1
Attachment 3

Survey of Characteristics of Vocational Education Teachers and Students

State _____

Sample Control Number				Stratum and Name of Teacher 1/	Name of Principal	School Address
State	Level	Field	Serial Number			
				Secondary		
	1	01		Agriculture		
	1	01	001	John Doe		
	1	01	002	*Harry Smith		
				Distributive		
	1	04	001	Sue Shore		
	1	04	002	*Tom Thumb		
	1	07		Health		
	1	09		Home Economics		
				etc.		

1/ Star those teachers who are alternates

Note: Original to be mailed to: Office of Education, Attn: NCES-SPA-AVSB, Room 1105, 400-MD, Washington, D. C. 20202. Copy to be kept by State Coordinators.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

April 22, 1969

REFER TO:

NATIONAL CENTER FOR
EDUCATIONAL STATISTICS

Dear Teacher:

The 1968 report of the Advisory Council on Vocational Education pointed out that more data are needed on vocational education teachers and students for planning purposes. In an attempt to obtain some information to help fill some of the gaps, the National Center for Educational Statistics of the U.S. Office of Education is now conducting a national survey of the characteristics of vocational teachers and students.

You have been selected to participate in this survey by an office in your State, designated by the State Director of Vocational Education. The sample selections were made from listings of teachers in the various vocational fields and levels. Your cooperation in assisting us to carry out this survey will be greatly appreciated. A letter regarding this survey has been sent to the principal of your school.

Enclosed is a teacher kit consisting of the following items:

1 teacher questionnaire--Form 2275
30 student questionnaires--Form 2275-1--for secondary or postsecondary levels or
30 adult questionnaires--Form 2275-2--for adult level
1 return envelope

If you teach at two levels (for example, if you teach courses at both the secondary and the adult levels), it is possible that your name may be selected twice--once for each level. We have tried to avoid this situation, but in the event you receive two teacher kits, please return one kit in the enclosed self-addressed envelope, with a note indicating the sample control number of the kit which you are using. (This number appears over your name on the label.) This is necessary so that an alternate teacher can be selected.

Information obtained from these questionnaires will be kept strictly CONFIDENTIAL by the U.S. Office of Education and we anticipate that you will also respect our intent that the information obtained here will not become part of any individual record. Names and sample control numbers are required only to facilitate controlling the sample and cross-checking the responses and will be used for no other purpose.

Since this is a national sample, the data will be summarized for the United States as a whole by field and level. In this survey, we will not get detailed information for your State or any smaller area. However, if this technique is effective, future surveys may provide State-by-State data.

We appreciate your contribution to this survey.

Sincerely yours,

Dorothy M. Gilford

Dorothy M. Gilford
Assistant Commissioner for
Educational Statistics

Enclosures -

Survey of Characteristics of Vocational Education Teachers and Students

Instructions to the Teachers

A. General

1. Participating in this survey involves:

   a. Completing the teacher form.

   b. Selecting the sample class.

   c. Administering the student questionnaire to the sample class.

   d. Returning the completed teacher and student forms together in the enclosed self-addressed envelope.

2. The survey should be administered to the sample class sometime during the week of April 28 to May 2, 1969.

3. As a guide to scheduling your time, the teachers in the pretest completed their forms in about 30 minutes and the students completed theirs in about 15 minutes.

4. To provide additional information for our guidance, we would appreciate your including a note indicating special problems that should be considered in reviewing the forms.

B. Instructions for completing the teacher questionnaire form 2275

1. The items on your questionnaire are largely self-explanatory. Instructions for completing item 21 (teaching assignments) appear on the teacher questionnaire.

2. We would appreciate your coding the vocational courses that you teach. Attached to your questionnaire is a list of Office of Education instructional codes and titles. Please enter the appropriate 6-digit code in column (b) of item 21. If you supervise an apprenticeship or cooperative program, enter "A" for apprenticeship or "C" for cooperative in column (b).

C. Choosing the student sample

1. You have been selected to participate in this survey on the basis of (a) the type of program you teach and (b) one of the levels at which you teach. Therefore, you should select your student sample class from the appropriate program and level for which you

were selected. On the upper left corner of the teacher form is a label with an 8-digit number. This is your sample control number. The third digit refers to the level (1 = secondary, 2 = postsecondary, and 3 = adult) and the fourth and fifth digits refer to the program (OE code).

2. Your teacher kit contains 30 forms to administer to one of your classes. Form 2275-1 is for secondary or postsecondary classes only, and form 2275-2 is for adult classes. Courses to be included in selecting the sample should be based on courses taught during the sample week and should exclude those supervised in apprenticeship or cooperative programs if the students are away from the building that week.

3. For the sake of simplicity, we have devised a sampling method that will be easy for you to administer. We ask that you follow the steps as closely as you can.

a. If you teach only one course at the level for which you were selected in the sample, as determined by the forms number of the questionnaires you received, then sample students in that course and no other.

b. If you teach two or more courses at the level for which you were selected, the sampling method is based on the number of vocational courses you are now teaching at that level in the order you listed in item 21 of the teacher questionnaire and on the intitial of your last name.

If, during the survey week of April 28 - May 2, you teach	And your last initial is	Then sample the students in your
2 courses	A to K	first course
	L to Z	second course
3 courses	A to G	second course
	H to O	third course
	P to Z	first course
4 courses	A to D	third course
	E to K	fourth course
	L to R	first course
	S to Z	second course
5 courses	A to C	fourth course
	D to H	fifth course
	I to M	first course
	N to R	second course
	S to Z	third course

For example: If Roger Smith teaches three courses at the adult level, the students in the first course listed in item 21 on the teacher questionnaire would be his sample class.

4. If several classes in the selected course are held during the survey week, you may use your own discretion as to the time most convenient to administer the survey.

5. If there are one or two absentee students, all completed forms may be returned without these absentees completing the questionnaires. If absence is larger than that, please give the questionnaire to the absentees to complete as soon as they return to class. However, do not hold up sending in the completed questionnaires beyond the end of the survey week (May 2).

D. Instructions for completing secondary and postsecondary form 2275-1 and adult form 2275-2

1. Enclosed in your kit are 30 forms for administering to your students in the course which you selected to sample.

2. A day or two before administering the survey, it may be desirable for you to mention to the secondary and postsecondary students of the sample class that they will be given a form on which there are some questions about their family. Mention that responses to these questions will be confidential and will be used for statistical purposes only and will not be a part of any individual's record. The annual family income (approximate) and the education and occupation of the head of household (usually the father) are not always known by the student. It would help in getting more accuracy on these topics if the students were prepared with answers. This request, of course, would not be necessary for your adult students.

3. In order to link completed student forms with your teacher form, we would appreciate your instructing the students to enter your sample control number on the student form in the appropriate box in the upper right corner.

4. Item 2, "Title of this course," refers to the course in which this survey is being administered.

5. Item 26 on form 2275-1 and item 21 on form 2275-2 request information on the courses in which each student is currently enrolled. Please ask the students to list your course first and then the others.

6. Please insert the OE code of your course in column (b) of the student questionnaires.

E. Returning all schedule forms

1. We would appreciate a note from you mentioning any special problems which we should take into consideration. In particular, if you have any students with "special needs" as provided for in the vocational education legislation, please identify the student and the type of "need." Insert your sample control number in the upper right corner of the note.

2. When your form and all the student forms are completed, please place them all together, along with the "special needs" note, in the self-addressed envelope and mail.

Thank you for your cooperation.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CHARACTERISTICS OF VOCATIONAL EDUCATION TEACHERS

BUDGET BUREAU NO. 51-S69008
APPROVAL EXPIRES: 12/31/69

Report data for school year ending June 30, 1969, unless otherwise specified. Estimate data for year to June 30, where necessary.

Information on this form will be treated as CONFIDENTIAL and used only in summary form.

SCHOOL INFORMATION

1. NAME OF SCHOOL

2. TYPE OF SCHOOL *(Check one)*

(1) ☐ REGULAR OR COMPREHENSIVE SECONDARY
(2) ☐ VOCATIONAL AND TECHNICAL *(secondary)*
(3) ☐ VOCATIONAL AND TECHNICAL *(postsecondary)*
(4) ☐ VOCATIONAL AND TECHNICAL *(combined)*
(5) ☐ COMMUNITY OR JUNIOR COLLEGE
(6) ☐ UNIVERSITY OR COLLEGE
(7) ☐ SPECIALIZED SECONDARY *(trade)*
(8) ☐ OTHER *(Specify)* _____

3. LOCATION OF SCHOOL *(Check one)*

(1) ☐ IN A LARGE CITY *(with 100,000 or more population)*
(2) ☐ IN THE SUBURB OF A LARGE CITY
(3) ☐ IN A SMALLER CITY OR TOWN
(4) ☐ IN A RURAL AREA

NOTE: *Items 4 through 8 are to be completed ONLY for regular full-time day school and are to apply to the school as a whole.*

4. GRADE SPAN IN SCHOOL		5. ENROLLMENT, FULL-TIME DAY SCHOOL ONLY	6. NUMBER IN GRADUATING CLASS OF JUNE 1968	7. NUMBER OF CLASS PERIODS IN REGULAR SCHOOL DAY	8. NUMBER OF MINUTES IN REGULAR CLASS PERIOD
FROM *(Grade)*	THROUGH *(Grade)*				

TEACHER INFORMATION

9. SEX
(1) ☐ MALE
(2) ☐ FEMALE

10. DATE OF BIRTH

MONTH	YEAR

11. HIGHEST ACADEMIC DEGREE *(Check one)*
(1) ☐ BACHELOR (3) ☐ DOCTOR (5) ☐ NONE
(2) ☐ MASTER (4) ☐ OTHER *(Specify)*

12. REGISTERED OR LICENSED IN: *(Check one)*
(1) ☐ FIELD IN WHICH YOU ARE NOW TEACHING
(2) ☐ OTHER FIELD *(Specify)*

13. TYPE OF TEACHING CERTIFICATE *(Check one)*
(1) ☐ REGULAR *(standard; professional)*
(2) ☐ VOCATIONAL *(regular; standard; special)*
(3) ☐ TEMPORARY, CONDITIONAL, PROBATIONARY
(4) ☐ OTHER *(Specify)* _____

14. PROGRAM SPECIALTY *(Check one)*
(01) ☐ AGRICULTURE
(04) ☐ DISTRIBUTIVE
(07) ☐ HEALTH
(09) ☐ HOME ECONOMICS
(14) ☐ OFFICE
(16) ☐ TECHNICAL
(17) ☐ TRADES AND INDUSTRY
(18) ☐ OTHER *(Specify)*

15. TEACHING EXPERIENCE	YEARS	MONTHS
TOTAL		
IN VOCATIONAL EDUCATION		
IN THIS SCHOOL		

16. ESTIMATE HOURS SPENT IN GUIDANCE AND COUNSELING ACTIVITIES OF STUDENTS DURING THIS SCHOOL YEAR	HOURS	
	TOTAL	ASSIGNED

17. NOW TEACHING IN THIS SCHOOL:
(1) ☐ FULL-TIME *(Answer Items 19A and 19B)*
(2) ☐ PART-TIME *(Answer Item 20)*

18. OCCUPATIONAL EXPERIENCE IN FIELD TAUGHT	YEARS	MONTHS

19A. CONTRACT SALARY *(If full-time)*
(1) ☐ UNDER $4,000
(2) ☐ $4,000 - $4,999
(3) ☐ $5,000 - $5,999
(4) ☐ $6,000 - $6,999
(5) ☐ $7,000 - $7,999
(6) ☐ $8,000 - $8,999
(7) ☐ $9,000 - $9,999
(8) ☐ $10,000 - $10,999
(9) ☐ $11,000 OR MORE

19B. CONTRACT PERIOD
(1) ☐ 9-10 MONTHS
(2) ☐ 11-12 MONTHS
(3) ☐ OTHER *(Specify)*

20. HOURLY SALARY *(If part-time)*
$

(Continued on reverse)

TEACHING ASSIGNMENTS

21. PLEASE READ DEFINITIONS AND INSTRUCTIONS BEFORE COMPLETING THIS SECTION. INCLUDE ALL TEACHING ASSIGNMENTS WHETHER IN THIS SCHOOL OR ELSEWHERE.

LINE NO.	OE CODE *(Use code attached)*	COURSES IN OTHER SCHOOLS	CLASS/COURSE TITLE *(Use local school titles)*	GRADE *(9, 10, 11, 12, 13, 14, Adult, Ungraded)*	MEMBERSHIP *(Opening)*	PUPIL TRANSFERS		NUMBER OF DROPOUTS FROM SCHOOL	MEMBERSHIP *(Closing)*	COMPLETIONS	CLASS PERIODS PER WEEK	LENGTH OF COURSE *(Weeks)*
						IN	OUT					
(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*	*(j)*	*(k)*	*(l)*	*(m)*
1												
2												
3												
4												
5												
6												

DEFINITIONS AND INSTRUCTIONS FOR TEACHING ASSIGNMENTS SECTION

COLUMN (b).--Do not code nonvocational courses. If you supervise an apprenticeship or cooperative program, enter A for apprenticeship or C for cooperative.

COLUMN (c).--Mark courses that you teach in other schools with an asterisk (*).

COLUMN (d).--Use local school class/course name or title.

COLUMN (e).--Enter the grade at which each course is being taught.

COLUMN (f).--For the regular full-time day school program, report for a date about 3 weeks after opening day; for adult classes, report enrollment as of the second class session.

COLUMN (g).--Include transfers from other programs in same school or other schools, and all additions which occurred after opening enrollment as reported in Column (f).

COLUMN (h).--Include transfers to other schools and other programs in same school. Do not include school dropouts.

COLUMN (i).--Include all enrollees who have left the regular full-time school. Do not include students who drop this course and remain in school.

COLUMN (j).--Report all enrollees who you expect will be enrolled by the end of the course; include those who will not successfully complete (*pass*).

COLUMN (k).--Report the number that you expect will successfully complete the course.

THANK YOU FOR YOUR COOPERATION

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CHARACTERISTICS OF VOCATIONAL EDUCATION ENROLLEES IN SECONDARY AND POSTSECONDARY PROGRAMS

BUDGET BUREAU NO. 51-S69008
APPROVAL EXPIRES: 12/31/69

TEACHER SAMPLE CONTROL NUMBER

Information on this form will be treated as CONFIDENTIAL and used only in summary form.

1A. NAME OF SCHOOL

1B. CITY

1C. STATE

2. TITLE OF THIS COURSE

3. NAME OF TEACHER *(Last, First, Middle Initial)* *(Please print)*

4. NAME OF STUDENT *(Last, First, Middle Initial)* *(Please print)*

5. SEX
(1) ☐ MALE
(2) ☐ FEMALE

6. DATE OF BIRTH
MONTH | YEAR

7. MARITAL STATUS *(Check one)*
(1) ☐ NEVER MARRIED
(2) ☐ MARRIED
(3) ☐ WIDOWED
(4) ☐ DIVORCED/SEPARATED

8. DO YOU CONSIDER YOURSELF A MEMBER OF ANY OF THE FOLLOWING GROUPS?
(1) ☐ AMERICAN INDIAN
(2) ☐ CUBAN
(3) ☐ MEXICAN-AMERICAN
(4) ☐ NEGRO
(5) ☐ ORIENTAL
(6) ☐ PUERTO RICAN
(7) ☐ NONE OF THESE

9. STUDENT STATUS *(Check one)*
(1) ☐ FULL-TIME (2) ☐ PART-TIME

10. WHAT GRADE ARE YOU IN NOW? *(Check one)*
(1) ☐ 9TH (4) ☐ 12TH (7) ☐ ADULT
(2) ☐ 10TH (5) ☐ 13TH (8) ☐ UNGRADED
(3) ☐ 11TH (6) ☐ 14TH

11. TITLE OF PROGRAM IN WHICH YOU ARE ENROLLED *(Check one)*
(01) ☐ AGRICULTURE
(04) ☐ DISTRIBUTIVE
(07) ☐ HEALTH
(09) ☐ HOME ECONOMICS
(14) ☐ OFFICE
(16) ☐ TECHNICAL
(17) ☐ TRADES/INDUSTRY
(18) ☐ OTHER *(Specify)* _____

12. LEVEL OF PROGRAM *(Check one)*
(1) ☐ SECONDARY (2) ☐ POSTSECONDARY

13. LENGTH OF PROGRAM *(Years)*

14. WHAT YEAR OF THIS PROGRAM ARE YOU IN NOW?

15. DATE YOU EXPECT TO COMPLETE PROGRAM
MONTH (01-12) | YEAR

16. DO YOU NOW HAVE A JOB OUTSIDE OF SCHOOL?
(1) ☐ YES
(2) ☐ NO *(Skip to Item 19)*

17. IF ANSWER TO ITEM 16 IS "YES", GIVE NUMBER OF HOURS WORKED LAST WEEK

18. IF YOU ARE WORKING, IS YOUR JOB – *(Check one)*
(1) ☐ PART OF A COOPERATIVE EDUCATION PROGRAM
(2) ☐ RELATED TO YOUR VOCATIONAL EDUCATION PROGRAM
(3) ☐ UNRELATED TO YOUR VOCATIONAL EDUCATION PROGRAM

19. WHAT ARE YOUR PLANS AFTER YOU COMPLETE THIS PROGRAM? *(Check one)*
(1) ☐ GET A JOB IN MY FIELD OF TRAINING
(2) ☐ GET A JOB IN A FIELD NOT RELATED TO MY TRAINING
(3) ☐ CONTINUE MY EDUCATION FULL-TIME AND NOT WORK
(4) ☐ CONTINUE MY EDUCATION AND FIND A PART-TIME JOB
(5) ☐ JOIN THE ARMED FORCES
(6) ☐ OTHER *(Specify)* _____

NOTE: *Items 20 through 24 concern information about your family.*
A FAMILY CONSISTS OF ALL PERSONS LIVING IN ONE HOUSEHOLD WHO ARE RELATED TO EACH OTHER.

20. NUMBER OF PERSONS, COUNTING YOURSELF, IN YOUR FAMILY

21. CHECK ONE
(1) ☐ DO YOU LIVE WITH YOUR PARENT OR GUARDIAN?
(2) ☐ ARE YOU THE HEAD OF OWN HOUSEHOLD?
(3) ☐ OTHER *(Specify)* _____

22. FAMILY YEARLY INCOME *(Estimate income for the family from all sources)*
(1) ☐ UNDER $3,000
(2) ☐ $3,000-$5,999
(3) ☐ $6,000-$9,999
(4) ☐ $10,000 OR MORE
(5) ☐ DON'T KNOW

23. EDUCATION OF HEAD OF HOUSEHOLD
(1) ☐ NONE
(2) ☐ LESS THAN GRADE 8
(3) ☐ COMPLETED GRADE 8
(4) ☐ SOME HIGH SCHOOL BEYOND GRADE 8
(5) ☐ COMPLETED HIGH SCHOOL
(6) ☐ SOME COLLEGE
(7) ☐ COMPLETED 2-YEAR COLLEGE PROGRAM
(8) ☐ COMPLETED 4-YEAR COLLEGE PROGRAM

24A. WHAT KIND OF WORK DOES THE HEAD OF THE HOUSEHOLD DO?

24B. (1) ☐ CHECK HERE IF MOTHER IS HEAD OF HOUSEHOLD.

25. WHERE IS YOUR HOUSE LOCATED? *(Check one)*
(1) ☐ IN A LARGE CITY *(with 100,000 or more population)*
(2) ☐ IN THE SUBURB OF A LARGE CITY
(3) ☐ IN A SMALLER CITY OR TOWN
(4) ☐ IN A RURAL AREA

OE FORM 2275-1, 3/69 PREVIOUS EDITION OF THIS FORM IS OBSOLETE

(Continued on reverse)

26. LIST BELOW ALL COURSES IN WHICH YOU ARE CURRENTLY ENROLLED. REPEAT ON LINE 1 THE SAME COURSE YOU LISTED IN ITEM 2 ON FRONT OF THIS FORM.

LINE NO. (a)	FOR OE USE OE CODE (b)	NAME OF COURSE *(Do not abbreviate)* (c)	MINUTES PER CLASS PERIOD (d)	CLASS PERIODS PER WEEK (e)	LENGTH OF COURSE *(Weeks)* (f)
1					
2					
3					
4					
5					
6					
7					
8					

THANK YOU FOR YOUR COOPERATION

GPO 873-870

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CHARACTERISTICS OF VOCATIONAL EDUCATION ENROLLEES IN ADULT PROGRAMS

BUDGET BUREAU NO. 51-S69008
APPROVAL EXPIRES: 12/31/69

TEACHER SAMPLE CONTROL NUMBER

Information on this form will be treated as CONFIDENTIAL and used only in summary form.

1A. NAME OF SCHOOL

1B. CITY

1C. STATE

2. TITLE OF THIS COURSE

3. NAME OF TEACHER *(Last, First, Middle Initial)* *(Please print)*

4. NAME OF STUDENT *(Last, First, Middle Initial)* *(Please print)*

5. SEX
(1) ☐ MALE
(2) ☐ FEMALE

6. DATE OF BIRTH
MONTH | YEAR

7. MARITAL STATUS *(Check one)*
(1) ☐ NEVER MARRIED
(2) ☐ MARRIED
(3) ☐ WIDOWED
(4) ☐ DIVORCED/ SEPARATED

8. DO YOU CONSIDER YOURSELF A MEMBER OF ANY OF THE FOLLOWING GROUPS?
(1) ☐ AMERICAN INDIAN
(2) ☐ CUBAN
(3) ☐ MEXICAN-AMERICAN
(4) ☐ NEGRO
(5) ☐ ORIENTAL
(6) ☐ PUERTO RICAN
(7) ☐ NONE OF THESE

9. TITLE OF PROGRAM IN WHICH YOU ARE ENROLLED: *(Check one)*
(01) ☐ AGRICULTURE
(04) ☐ DISTRIBUTIVE
(07) ☐ HEALTH
(09) ☐ HOME ECONOMICS
(14) ☐ OFFICE
(16) ☐ TECHNICAL
(17) ☐ TRADES/ INDUSTRY
(18) ☐ OTHER *(Specify)*

10. DATE YOU EXPECT TO COMPLETE PROGRAM
MONTH *(01-12)* | YEAR

11. MILITARY STATUS *(Check one)*
(1) ☐ VETERAN
(2) ☐ NON-VETERAN
(3) ☐ CURRENTLY IN FULL-TIME ACTIVE MILITARY SERVICE

12. HIGHEST GRADE LEVEL OF EDUCATION *(Check one)*
(1) ☐ LESS THAN GRADE 8
(2) ☐ COMPLETED GRADE 8
(3) ☐ SOME HIGH SCHOOL BEYOND GRADE 8
(4) ☐ COMPLETED HIGH SCHOOL
(5) ☐ SOME COLLEGE
(6) ☐ COMPLETED 2-YEAR COLLEGE PROGRAM
(7) ☐ COMPLETED 4-YEAR COLLEGE PROGRAM
(8) ☐ OTHER *(Specify)* _____

13. DURING THE PAST WEEK, WERE YOU – *(Check one)*
(1) ☐ EMPLOYED FOR 35 HOURS OR MORE
(2) ☐ EMPLOYED 1 TO 34 HOURS AND LOOKING FOR MORE WORK
(3) ☐ EMPLOYED 1 TO 34 HOURS AND NOT SEEKING WORK
(4) ☐ NOT WORKING, BUT ACTIVELY SEEKING WORK *(Skip to Item 17)*
(5) ☐ NOT WORKING, AND NOT SEEKING WORK *(Skip to Item 17)*

14. IF YOU WERE EMPLOYED, WHAT KIND OF WORK WERE YOU DOING?

15. IS THIS COURSE RELATED TO THIS JOB?
(1) ☐ YES
(2) ☐ NO

16. IF "NO," FOR WHAT JOB ARE YOU PREPARING?

NOTE: Items 17 through 19 concern information about your family.
A FAMILY CONSISTS OF ALL PERSONS LIVING IN ONE HOUSEHOLD WHO ARE RELATED TO EACH OTHER.

17. NUMBER OF PERSONS, COUNTING YOURSELF, IN YOUR FAMILY

18. CHECK ONE
(2) ☐ ARE YOU THE HEAD OF OWN HOUSEHOLD?
(1) ☐ DO YOU LIVE WITH YOUR PARENTS OR GUARDIAN?
(3) ☐ OTHER *(Specify)* _____

19. FAMILY YEARLY INCOME *(Estimate income for the family from all sources)*
(1) ☐ UNDER $3,000
(2) ☐ $3,000 - $5,999
(3) ☐ $6,000 - $9,999
(4) ☐ $10,000 OR MORE

20. WHERE IS YOUR HOUSE LOCATED? *(Check one)*
(1) ☐ IN A LARGE CITY *(with 100,000 or more population)*
(2) ☐ IN THE SUBURB OF A LARGE CITY
(3) ☐ IN A SMALLER CITY OR TOWN
(4) ☐ IN A RURAL AREA

OE FORM 2275-2, 3/69 PREVIOUS EDITION OF THIS FORM IS OBSOLETE

(Continued on reverse)

21. LIST BELOW ALL COURSES IN WHICH YOU ARE CURRENTLY ENROLLED. REPEAT ON LINE 1 THE SAME COURSE YOU LISTED IN ITEM 2 ON FRONT OF THIS FORM.

LINE NO. (a)	FOR OE USE OE CODE (b)	NAME OF COURSE *(Do not abbreviate)* (c)	MINUTES PER CLASS PERIOD (d)	CLASS PERIODS PER WEEK (e)	LENGTH OF COURSE *(Weeks)* (f)
1					
2					
3					
4					
5					
6					
7					
8					

THANK YOU FOR YOUR COOPERATION

GPO 873-869

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

April 22, 1969

NATIONAL CENTER FOR
EDUCATIONAL STATISTICS

REFER TO:

Dear Principal:

The 1968 report of the Advisory Council on Vocational Education pointed out that more data are needed on vocational education teachers and students for planning purposes. To help fill some of the data gaps, the National Center for Educational Statistics of the U.S. Office of Education is conducting a national survey on the characteristics of vocational teachers and students.

The teacher sample has been selected by an office in your State designated by the State Director of Vocational Education. The student sample will include one class taught by each teacher selected for the sample.

The teacher/teachers listed at the bottom of this letter, who is/are in your school, has/have been selected for this sample. The package we are mailing to the teachers will contain a questionnaire for the teacher to complete and 30 questionnaires to administer to one of the teacher's classes. Instructions on the method of selecting a sample class will also be included.

The forms for the survey have been kept simple and were pretested in three States. Based on the pretest experience, the teacher form takes about 30 minutes to complete and the student form--to be administered to the entire class at once--about 15 minutes.

Your cooperation will be helpful in developing a better understanding of vocational education in this country.

Sincerely yours,

Dorothy M. Gilford

Dorothy M. Gilford
Assistant Commissioner for
Educational Statistics

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Appendix D

Codes

1. Office of Education State Codes

10	Alabama	27	Kentucky	44	North Dakota
11	Alaska	28	Louisiana	45	Ohio
12	Arizona	29	Maine	46	Oklahoma
13	Arkansas	30	Maryland	47	Oregon
14	California	31	Massachusetts	48	Pennsylvania
15	Colorado	32	Michigan	49	Rhode Island
16	Connecticut	33	Minnesota	50	South Carolina
17	Delaware	34	Mississippi	51	South Dakota
18	District of Columbia	35	Missouri	52	Tennessee
19	Florida	36	Montana	53	Texas
20	Georgia	37	Nebraska	54	Utah
21	Hawaii	38	Nevada	55	Vermont
22	Idaho	39	New Hampshire	56	Virginia
23	Illinois	40	New Jersey	57	Washington
24	Indiana	41	New Mexico	58	West Virginia
25	Iowa	42	New York	59	Wisconsin
26	Kansas	43	North Carolina	60	Wyoming

2. Codes and Titles [1]

Vocational-Technical Instructional Programs

01.0000 AGRICULTURE

01.01	Agriculture production
01.02	Agricultural supplies
01.03	Agricultural mechanics
01.04	Agricultural products
01.05	Ornamental horticulture
01.06	Agricultural resources
01.07	Forestry
01.99	Other (Specify)

04.0000 DISTRIBUTION AND MARKETING

04.0101	Advertising services
04.0102	Apparel and accessories
04.0103	Automotive and petroleum
04.0104	Finance and credit
04.0105	Food distribution
04.0106	Food services
04.0107	General merchandise
04.0108	Hardware, building materials, etc.
04.0109	Home furnishings
04.0110	Hotel and lodging
04.0111	Insurance
04.0112	International trade
04.0113	Management (general)
04.0114	Marketing (general)
04.0115	Mid-management

[1] Adapted from "Standard Terminology for Curriculum and Instruction in Local and State School Systems," *Handbook VI*, Volume II, Third Draft; National Center for Educational Statistics, 1967.

04.0116 Real estate
04.0117 Retail trade (general)
04.0118 Transportation
04.0119 Wholesale trade (general)
04.0199 Other (specify)

07.0000 HEALTH OCCUPATIONS

07.0101 Dental assistant
07.0102 Dental hygienist
07.0103 Dental laboratory technician
07.0201 Cytology technician
07.0202 Histology technician
07.0203 Medical laboratory technician
07.0204 Nurse, associate degree
07.0205 Practical (vocational) nurse
07.0206 Nurses' aide
07.0208 Hospital food service supervisor
07.0209 Inhalation therapy technician
07.0211 Medical X-ray technician
07.0212 Optician
07.0213 Surgical technician (Operating room technician)
07.0214 Occupational therapy assistant
07.0399 Other (specify)

09.0000 HOME ECONOMICS

09.0101 Comprehensive homemaking
09.0102 Child development
09.0103 Clothing and textiles
09.0104 Consumer education
09.0105 Family health
09.0106 Family relations
09.0107 Foods and nutrition
09.0108 Home management
09.0109 Housing and home furnishings
09.0199 Other homemaking (specify)
09.0201 Care and guidance of children
09.0202 Clothing management, production, and services
09.0204 Home furnishings, equipment, and services
09.0205 Institutional and home management and supporting services
09.0299 Other occupational preparation (specify)

14.0000 OFFICE OCCUPATIONS

14.01 Accounting and computing
14.02 Business data processing systems
14.03 Filing, office machines, and clerical
14.04 Information communication
14.05 Materials support: transporting, storing, and recording
14.06 Personnel, training, and related
14.07 Stenographic, secretarial, and related
14.08 Supervisory and administrative management
14.09 Typing and related
14.10 Miscellaneous office (specify)
14.99 Other office (specify)

16.0000 TECHNICAL

16.01 Engineering-related technology
16.0101 Aeronautical technology
16.0102 Agricultural technology
16.0103 Architectural technology (building construction)
16.0104 Automotive technology
16.0105 Chemical technology
16.0106 Civil technology
16.0107 Electrical technology
16.0108 Electronics technology
16.0109 Electromechanical technology
16.0110 Environmental control technology
16.0111 Industrial technology
16.0112 Instrumentation technology
16.0113 Mechanical technology
16.0114 Metallurgical technology
16.0115 Nuclear technology
16.0116 Petroleum technology
16.0117 Scientific data processing
16.0199 Other engineering-related technology (specific)
16.05 Other technical education
16.0502 Commercial pilot training
16.0503 Fire and safety technology
16.0504 Forestry technology
16.0505 Marine technology
16.0506 Police science technology
16.99 Other technical education (specify)

17.0000 TRADES AND INDUSTRY

17.01 Air conditioning
17.0101 Cooling
17.0102 Heating
17.0103 Ventilating (filtering and humidification)
17.0199 Other air conditioning (specify)
17.02 Appliance repair
17.03 Automotive industries
17.0301 Body and fender
17.0302 Mechanics

17.0303 Specialization
17.0399 Other automotive (specify)
17.04 Aviation occupations
17.0401 Aircraft maintenance
17.0402 Aircraft operations
17.0403 Ground operations
17.05 Blueprint reading
17.06 Business machine maintenance
17.07 Commercial art
17.08 Commercial fishery
17.09 Commercial photography
17.10 Construction and maintenance trades
17.1001 Carpentry
17.1002 Electricity
17.1003 Heavy equipment (construction)
17.1004 Masonry
17.1005 Painting and decorating
17.1006 Plastering
17.1007 Plumbing and pipefitting
17.1099 Other trades (specify)
17.11 Custodial services
17.12 Diesel mechanic
17.13 Drafting
17.14 Electrical occupations
17.1401 Industrial electrician
17.1402 Lineman
17.1403 Motor repairman
17.1499 Other electrical (specify)
17.15 Electronics occupations
17.1501 Electronics occupations
17.1502 Industrial electronics
17.1503 Radio/television
17.1599 Other electronics (specify)
17.16 Fabric maintenance services
17.1601 Drycleaning
17.1602 Laundering
17.1699 Other (specify)
17.17 Foremanship, supervision, and management development
17.18 General continuation
17.19 Graphic arts
17.20 Industrial atomic energy
17.2001 Installation, operation, and maintenance
17.2002 Radiography
17.2003 Industrial use of radioisotopes
17.2099 Other (specify)
17.21 Instruments maintenance (including watchmaking and repair)
17.22 Maritime occupations
17.23 Metalworking occupations
17.2301 Foundry
17.2302 Machine shop
17.2303 Machine tool operation
17.2304 Metal trades (combined)
17.2305 Sheet metal
17.2306 Welding
17.2399 Other metalworking (specify)
17.24 Metallurgy occupations
17.25 Nucleonic occupations
17.26 Personal services
17.2601 Barbering
17.2602 Cosmetology
17.2699 Other (specify)
17.27 Plastics occupations
17.28 Public service
17.2801 Fireman training
17.2802 Law enforcement training
17.2899 Other (specify)
17.29 Quantity food occupations
17.2901 Baker
17.2902 Cook/chef
17.2903 Meat cutter
17.2904 Waiter/waitress
17.2999 Other (specify)
17.30 Refrigeration
17.31 Small engine repair (internal combustion)
17.32 Stationary energy sources
17.3201 Electric power generating plants
17.3202 Pumping plants
17.3299 Other (specify)
17.33 Textile production and fabrication
17.3301 Dressmaking
17.3302 Tailoring
17.3399 Other (specify)
17.34 Shoe manufacturing/repair
17.35 Upholstering
17.36 Woodworking occupations
17.3601 Millwork and cabinet making
17.3699 Other woodworking (specify)
17.99 Other trades and industrial (specify)

3. Occupational Classification [2]

[The single letter or 3-digit number in the left margin is the code symbol for the occupation category; "n.e.c." means not elsewhere classified]

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS

000 Accountants and auditors
010 Actors and actresses
012 Airplane pilots and navigators
013 Architects
014 Artists and art teachers
015 Athletes
020 Authors
021 Chemists
022 Chiropractors
023 Clergymen
College presidents, professors, and instructors (n.e.c.)
030 College presidents and deans
031 Professors and instructors, agricultural sciences
032 Professors and instructors, biological sciences
034 Professors and instructors, chemistry
035 Professors and instructors, economics
040 Professors and instructors, engineering
041 Professors and instructors, geology and geophysics
042 Professors and instructors, mathematics
043 Professors and instructors, medical sciences
045 Professors and instructors, physics
050 Professors and instructors, psychology
051 Professors and instructors, statistics
052 Professors and instructors, natural sciences (n.e.c.)
053 Professors and instructors, social sciences (n.e.c.)
054 Professors and instructors, nonscientific subjects
060 Professors and instructors, subject not specified
070 Dancers and dancing teachers
071 Dentists
072 Designers
073 Dietitians and nutritionists
074 Draftsmen
075 Editors and reporters
080 Engineers, aeronautical
081 Engineers, chemical
082 Engineers, civil
083 Engineers, electrical
084 Engineers, industrial
085 Engineers, mechanical
090 Engineers, metallurgical, and metallurgists
091 Engineers, mining
092 Engineers, sales
093 Engineers (n.e.c.)
101 Entertainers (n.e.c.)
102 Farm and home management advisers
103 Foresters and conservationists
104 Funeral directors and embalmers
105 Lawyers and judges
111 Librarians
120 Musicians and music teachers
Natural scientists (n.e.c.)
130 Agricultural scientists
131 Biological scientists
134 Geologists and geophysicists
135 Mathematicians
140 Physicists
145 Miscellaneous natural scientists
150 Nurses, professional
151 Nurses, student professional
152 Optometrists
153 Osteopaths
154 Personnel and labor relations workers
160 Pharmacists
161 Photographers
162 Physicians and surgeons
163 Public relations men and publicity writers
164 Radio operators
165 Recreation and group workers
170 Religious workers
171 Social and welfare workers, except group
Social scientists
172 Economists
173 Psychologists
174 Statisticians and actuaries
175 Miscellaneous social scientists
180 Sports instructors and officials
181 Surveyors

[2] "Alphabetical Index of Occupations and Industries" of the *1960 Census of Population*, revised edition, U.S. Department of Commerce, Bureau of the Census, 1960

182 Teachers, elementary schools
183 Teachers, secondary schools
184 Teachers (n.e.c.)
185 Technicians, medical and dental
190 Technicians, electrical and electronic
191 Technicians, other engineering and physical sciences
192 Technicians (n.e.c.)
193 Therapists and healers (n.e.c.)
194 Veterinarians
195 Professional, technical, and kindred workers (n.e.c.)

FARMERS AND FARM MANAGERS

N Farmers (owners and tenants)
222 Farm managers

MANAGERS, OFFICIALS, AND PROPRIETORS, EXCEPT FARM

250 Buyers and department heads, store
251 Buyers and shippers, farm products
252 Conductors, railroad
253 Credit men
254 Floor men and floor managers, store
260 Inspectors, public administration
262 Managers and superintendents, building
265 Officers, pilots, pursers, and engineers, ship
270 Officials and administrators (n.e.c.), public administration
275 Officials, lodge, society, union, etc.
280 Postmasters
285 Purchasing agents and buyers (n.e.c.)
R Managers, officials, and proprietors (n.e.c.)

CLERICAL AND KINDRED WORKERS

301 Agents (n.e.c.)
302 Attendants and assistants, library
303 Attendants, physician's and dentist's office
304 Baggagemen, transportation
305 Bank tellers
310 Bookkeepers
312 Cashiers
313 Collectors, bill and account
314 Dispatchers and starters, vehicle
315 Express messengers and railway mail clerks
320 File clerks
321 Insurance adjusters, examiners, and investigators
323 Mail carriers
324 Messengers and office boys
325 Office machine operators
333 Payroll and timekeeping clerks
340 Postal clerks
341 Receptionists
Z Secretaries
343 Shipping and receiving clerks
345 Stenographers
350 Stock clerks and storekeepers
351 Telegraph messengers
352 Telegraph operators
353 Telephone operators
354 Ticket, station, and express agents
360 Typists
Y Clerical and kindred workers (n.e.c.)

SALES WORKERS

380 Advertising agents and salesmen
381 Auctioneers
382 Demonstrators
383 Hucksters and peddlers
385 Insurance agents, brokers, and underwriters
390 Newsboys
393 Real estate agents and brokers
395 Stock and bond salesmen
S Salesmen and sales clerks (n.e.c.)

CRAFTSMEN, FOREMEN, AND KINDRED WORKERS

401 Bakers
402 Blacksmiths
403 Boilermakers
404 Bookbinders
405 Brickmasons, stonemasons, and tile setters
410 Cabinetmakers
Q Carpenters
413 Cement and concrete finishers
414 Compositors and typesetters
415 Cranemen, derrickmen, and hoistmen
420 Decorators and window dressers
421 Electricians
423 Electrotypers and stereotypers
424 Engravers, except photoengravers
425 Excavating, grading, and road machinery operators
430 Foremen (n.e.c.)
431 Forgemen and hammermen
432 Furriers

434 Glaziers
435 Heat treaters, annealers, and temperers
444 Inspectors, scalers, and graders, log and lumber
450 Inspectors (n.e.c.)
451 Jewelers, watchmakers, goldsmiths, and silversmiths
452 Job setters, metal
453 Linemen and servicemen, telegraph, telephone, and power
454 Locomotive engineers
460 Locomotive firemen
461 Loom fixers
465 Machinists
470 Mechanics and repairmen, air conditioning, heating, and refrigeration
471 Mechanics and repairmen, airplane
472 Mechanics and repairmen, automobile
473 Mechanics and repairmen, office machine
474 Mechanics and repairmen, radio and television
475 Mechanics and repairmen, railroad and car shop
480 Mechanics and repairmen (n.e.c.)
490 Millers, grain, flour, feed, etc.
491 Millwrights
492 Molders, metal
493 Motion picture projectionists
494 Opticians, and lens grinders and polishers
495 Painters, construction and maintenance
501 Paperhangers
502 Pattern and model makers, except paper
503 Photoengravers and lithographers
504 Piano and organ tuners and repairmen
505 Plasterers
510 Plumbers and pipe fitters
512 Pressmen and plate printers, printing
513 Rollers and roll hands, metal
514 Roofers and slaters
515 Shoemakers and repairers, except factory
520 Stationary engineers
521 Stone cutters and stone carvers
523 Structural metal workers
524 Tailors and tailoresses
525 Tinsmiths, coppersmiths, and sheet metal workers
530 Toolmakers, and die makers and setters
535 Upholsterers
545 Craftsmen and kindred workers (n.e.c.)
555 Members of the armed forces

OPERATIVES AND KINDRED WORKERS[3]

601 Apprentice auto mechanics
602 Apprentice bricklayers and masons
603 Apprentice carpenters
604 Apprentice electricians
605 Apprentice machinists and toolmakers
610 Apprentice mechanics, except auto
612 Apprentice plumbers and pipe fitters
613 Apprentices, building trades (n.e.c.)
614 Apprentices, metalworking trades (n.e.c.)
615 Apprentices, printing trades
620 Apprentices, other specified trades
621 Apprentices, trade not specified
630 Asbestos and insulation workers
631 Assemblers
632 Attendants, auto service and parking
634 Blasters and powdermen
635 Boatmen, canalmen, and lock keepers
640 Brakemen, railroad
641 Bus drivers
642 Chainmen, rodmen, and axmen, surveying
643 Checkers, examiners, and inspectors, manufacturing
645 Conductors, bus and street railway
650 Deliverymen and routemen
651 Dressmakers and seamstresses, except factory
652 Dyers
653 Filers, grinders, and polishers, metal
654 Fruit, nut, and vegetable graders and packers, except factory
670 Furnacemen, smeltermen, and pourers
671 Graders and sorters, manufacturing
672 Heaters, metal
673 Knitters, loopers, and toppers, textile
674 Laundry and dry cleaning operatives
675 Meat cutters, except slaughter and packing house
680 Milliners
685 Mine operatives and laborers (n.e.c.)
690 Motormen, mine, factory, logging camp, etc.
691 Motormen, street, subway, and elevated railway
692 Oilers and greasers, except auto
693 Packers and wrappers (n.e.c.)
694 Painters, except construction and maintenance
695 Photographic process workers
701 Power station operators
703 Sailors and deck hands
704 Sawyers

[3] Mine laborers are included in the major group "Operatives and kindred workers."

705 Sewers and stitchers, manufacturing
710 Spinners, textile
712 Stationary firemen
713 Switchmen, railroad
714 Taxicab drivers and chauffeurs
T Truck and tractors drivers
720 Weavers, textile
721 Welders and flame-cutters
W Operatives and kindred workers (n.e.c.)

PRIVATE HOUSEHOLD WORKERS

801 Baby sitters, private household
802 Housekeepers, private household
803 Laundresses, private household
P Private household workers (n.e.c.)

SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD

810 Attendants, hospital and other institutions
812 Attendants, professional and personal service (n.e.c.)
813 Attendants, recreation and amusement
814 Barbers
815 Bartenders
820 Bootblacks
821 Boarding and lodging house keepers
823 Chambermaids and maids, except private household
824 Charwomen and cleaners
825 Cooks, except private household
830 Counter and fountain workers
831 Elevator operators
843 Hairdressers and cosmetologists
834 Janitors and sextons
835 Kitchen workers (n.e.c.), except private household
832 Housekeepers and stewards, except private household
840 Midwives
841 Porters
842 Practical nurses
Protective service workers
850 Firemen, fire protection
851 Guards, watchmen, and doorkeepers
852 Marshals and constables
853 Policemen and detectives
854 Sheriffs and bailiffs
860 Watchmen (crossing) and bridge tenders
874 Ushers, recreation and amusement
875 Waiters and waitresses
890 Service workers, except private household (n.e.c.)

FARM LABORERS AND FOREMEN

901 Farm foremen
U Farm laborers, wage workers
V Farm laborers, unpaid family workers
905 Farm service laborers, self-employed

LABORERS, EXCEPT FARM AND MINE

960 Carpenters' helpers, except logging and mining
962 Fishermen and oystermen
963 Garage laborers, and car washers and greasers
964 Gardeners, except farm, and groundskeepers
965 Longshoremen and stevedores
970 Lumbermen, raftsmen, and woodchoppers
971 Teamsters
972 Truck drivers' helpers
973 Warehousemen (n.e.c.)
X Laborers (n.e.c.)

995 OCCUPATION NOT REPORTED

Appendix E

Glossary

Personnel

Teachers—staff members who guide and direct the learning experiences of students in subjects relating to the preparation for occupations or groups of occupations.

Students—individuals who receive instruction in a vocational education program under the jurisdiction of a school or school system.

Adults—individuals who have reached a specified minimum legal age of adulthood, usually 18 years.

Minority groups—includes American Indians, Negroes, Orientals, Spanish-surnamed Americans. In this survey, the student identified himself as belonging to a specified race or ethnic group.

White-collar worker—includes Census classifications of occupations as follows: professional, technical, and kindred workers; managers, officials, and proprietors, except farm; clerical and kindred workers; and sales workers.

Blue-collar workers—includes Census classifications of occupations as follows: craftsmen, foremen, and kindred workers; operators and kindred workers; private household workers; service workers except private household; farmers and farm managers; farm laborers and foremen; and laborers, except farm and mine.

Schools

Regular / comprehensive / secondary—a secondary school with a number of departments (e.g., English, science, business, vocational) offering a diversified program to meet the needs of pupils with varying interests and abilities.

Technical institute—an institution, or a division of an institution, offering instruction primarily in one or more of the technologies at the postsecondary level.

Vocational and/or technical high school—a secondary school which is separately organized and administered for the primary purpose of offering education and training in one or more of the technical occupations.

Community or junior college—A junior college is an institution of higher education which offers usually the first 2 years of college instruction, which frequently grants an associate degree and does not grant a bachelor's degree. It is either an independently organized institution or a community institution which is a part of a public school system. Offerings include college transfer courses and programs; and/or vocational, technical, and semiprofessional occupational programs or general education programs at the postsecondary instructional level. (This is a modification of the definition for Junior College in Handbook VI.)

Educational level

Secondary vocational—vocational education instruction commencing at termination of elementary school, and provided to students up to and including grade 12 or its equivalent.

Postsecondary vocational—vocational education instruction provided to students beginning with grade 13 or its equivalent and leading to a degree or certificate below the baccalaureate.

Adult vocational—vocational education instruction provided to out-of-school youth or adults.

Ungraded—vocational education instruction which has no standard grade designation. Such a class is likely to contain pupils of different ages who may be identified according to level of performance.

Programs

Vocational Education Program—formal instruction

which prepares students for initial entrance into or upgrading, retraining, or advancement within an occupation or occupational field.

Agriculture—instruction concerned with knowledge and skills in the functions of agricultural production, agricultural supplies, agricultural mechanization, agricultural products (processing), ornamental horticulture, forestry, agricultural resources, and the services related thereto.

Distributive Education—instruction concerned with knowledge and skills in the field of distribution and marketing, including selling, and such sales-supporting functions as buying, transporting, storing, promoting, financing, marketing research, and management.

Health Occupations—instruction concerned with assisting qualified personnel in providing diagnostic, therapeutic, preventive, restorative, and rehabilitative services to people, including understanding and skills essential to provide care and health services to patients.

Home Economics—instruction concerned with knowledge, understanding, attitudes, and skills relevant to (a) personal, home, and family life, and (b) occupational preparation using the knowledge and skills of home economics.

Office Occupations—instruction concerned with career objectives in selected office occupations such as recording and retrieval of data, supervision and coordination of office activities, internal and external communication, and the reporting of information.

Technical Education—instruction, usually at the postsecondary level, which normally includes the study of the underlying sciences and supporting mathematics inherent in a technology, as well as methods, skills, materials, and processes, and the acquisition of extensive knowledge which is required in a field of specialization. A student is prepared for an occupational area between a skilled craftsman and a professional.

Trades and Industrial Occupations—instruction concerned with training in skilled or semiskilled occupations such as layout designing, producing, processing, assembling, testing, maintaining, servicing, or repairing any product or commodity. Included are basic manipulative skills, safety, related mathematics, drafting, and science, and shop or laboratory experiences simulating those in industry and classroom.

Cooperative education—a combination program of study and practice—conducted on an alternating schedule of half days, days, weeks, or other periods of time—providing legal employment for pupils with organized on-the-job training and correlated school instruction.

Work-study program—an arrangement whereby a full-time student, who is 15 to 21 years old and is in need of earnings, works for no more than 15 hours per week in a Federal, State, or local agency.

Apprenticeship program—a program of studies of occupational preparation for skilled trades as authorized by State and Federal legislation and usually conducted under the auspices of a local joint apprenticeship committee representing labor, management, and the school.

Other

Course—an organization of subject matter and related learning experiences provided for the instruction of pupils on a regular or systematic basis, usually for a predetermined period of time.

Class—a group of pupils assigned to one or more teachers for a given period of time for the purpose of instruction in a situation where the teacher(s) and the pupils are in the presence of each other.

Occupational field—a group of recognized occupations having many similarities including type of work performed, basic aptitudes, and acquired knowledge and training required; tools, machines, instruments, and other equipment used; and basic materials used.

Special needs—deficiency in one or more of the cultural, economic, environmental, physical, or mental aspects that may adversely affect the school performance or learning ability of an individual.

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RELATED NCES PUBLICATIONS

HE 5.213:13037	Adult Basic Education Program Statistics: Students and Staff Data, July 1, 1968–June 30, 1969
HE 5.280:80069	Inventory of Vocational Education Statistics Available in Federal Agencies
HE 5.213:13036	Noncredit Activities in Institutions of Higher Education, 1967–68: Institutional Distribution